

South African Medical Journal

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(1) Klohs, M. W.; Draper, M. D., and Keller, F.:
J. Am. Chem. Soc. 76:2843 (May 20) 1954.

(2) Cronheim, G.; Brown, W.; Cawthorne, J.;
Toekes, M. I.; and Ungari, J.: Proc. Soc.
Exper. Biol. & Med. 86:110 (May) 1954.

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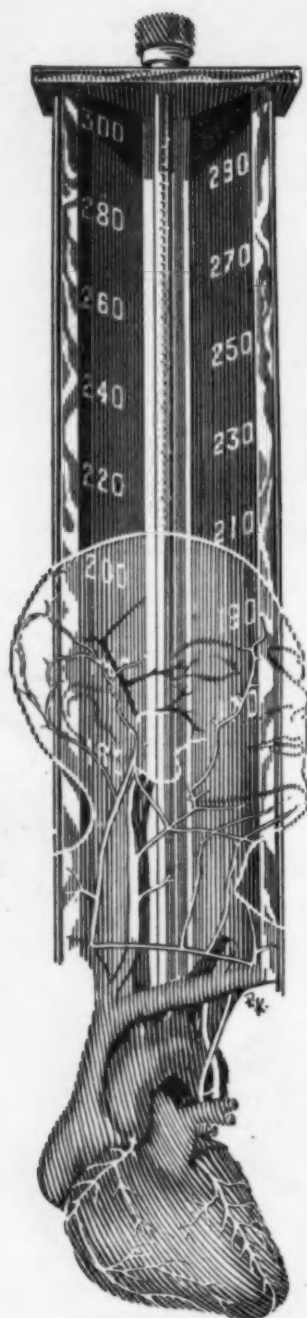
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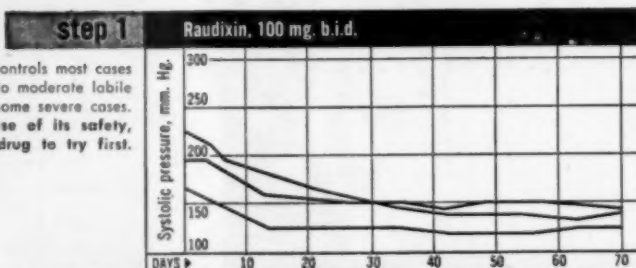
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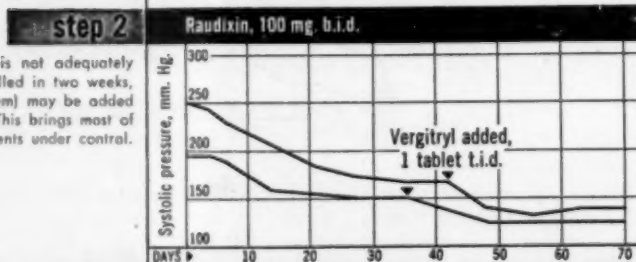
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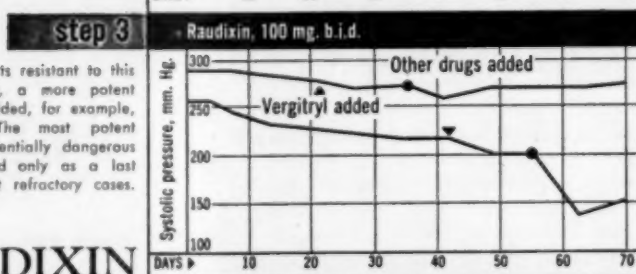
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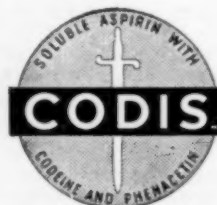
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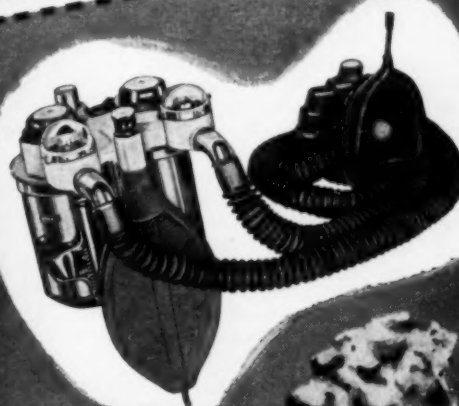
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J.A.M.A. 1950, 144, 1543

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SNYKUNDIGE BEHANDELING VAN ULCUS PEPTICUM*

F. D. DU T. VAN ZYL, CH.M., F.R.C.S.(ED.)

Kaapstad

In die peptiese ulcus en neiging tot ulserasie het ons 'n patologiese toestand wat tot veel morbiditeit en groot geesteskwellinge lei, afgesien van die mortaliteit daaraan verbonde. In die keuse van ons metode van behandeling moet ons beide die morbiditeit en die mortaliteit in aanmerking neem. Ons moet ook versigtig wees om nie die mortaliteit wat in sekere gevalle aan 'n operatiewe ingryping verbonde is alleenlik aan die chirurgiese behandeling toe te skryf nie. Indien die operasie té lank weerhou is en die pasiënt na die operasie sou sterf, dan behoort die blaam vir die mortaliteit op die konserwatiewe behandeling te rus veel eerder as op die chirurgiese ingryping. Ek dink hier veral aan gevalle van massiewe bloeding. Uitstel om in sulke gevalle te opereer is dié grootste enkele faktor wat die dood by mense oor die middeljarige leeftyd veroorsaak.

MORTALITEIT EN MORBIDITEIT

Mortaliteit. 'n Vergelyking van resultate is ook van weinig betekenis indien mens nie groot getalle het om te vergelyk nie en indien die behandeling nie deur deskundiges toegepas is nie. In die algemeen is dit egter makliker om uit te vind wat die mortaliteit van operatiewe behandeling is dan dié van konserwatiewe metodes. In soverre mens betroubare syfers kan kry is daar weinig verskil. Die mortaliteit verbonde aan die mees radikale vorm van chirurgiese ingryping, nl. 'n gedeeltelike gastrektomie, is 4%. Dié verbonde aan mediese behandeling is 3.5%. Heuer het die resultate van 651 pasiënte met peptiese sere, wat mediese behandeling in die New York-hospitaal ontvang het, nagegaan en gevind dat 3.5% van hulle binne 3 maande na hulle ontslag uit die hospitaal aan die gevolge van hul ulserasie dood is. Op grond van die mortaliteit is daar dus nie veel te kies nie.

*'n Voordrag gelewer by 'n vergadering van die Tak Wes-Kaapland van die Mediese Vereniging.

Morbiditeit. Ons keuse moet dan meer bepaald gebaseer wees op die morbiditeit verbonde aan die twee metodes van behandeling, d.i. die pyn en lyding, die geestelike kwelling, die onbekwaamheid van die pasiënt om sy werk te doen en die gevolglike ekonomiese agteruitgang van die pasiënt en sy gesin. In die geval van mediese behandeling is dit ten opsigte van die morbiditeit net soos met die mortaliteit nie maklik om betroubare statistiek te bekom nie. Redelik betroubare syfers kan egter verkry word waar die pasiënt so 'n dramatiese kuur soos 'n operasie ondergaan het. Ons moet ook in gedagte hou dat chirurgiese behandeling selde toegepas word alvorens deeglike, of redelik deeglike, mediese behandeling probeer is. Uit die aard van die saak kry die chirurg feitlik alleen met dié gevalle te doen waar die internis nie 'n goeie resultaat verkry het nie, ditsy weens die ernstige aard van die kwaal of weens ekonomiese of ander omstandighede waaroor hy geen beheer het nie.

Van operatiewe behandeling kan ons sê dat die resultaat in 80-90% gevalle goed is. Sulke pasiënte kan na hul operasie normaal werk, eet en drink en vrolik wees. In 14% gevalle is hul toestand verbeter maar is hul nog verplig om met hul dieet versigtig te wees indien hulle in staat wil wees om hul werk te doen en simptoom-vry te bly. In 3% gevalle ontwikkel daar 'n jejunale- of anastomotiese ulcus. In 'n verder 3% gevalle is die pasiënt werklik slegter daaraan toe as vóór die operasie.

Ek gee hier die omvattende statistiek. Dit verteenwoordig nie die resultate van deskundiges op die gebied van maagchirurgie nie. In soverre dit die morbiditeit by mediese behandeling betref wil ek verwys na die syfers van 'n Noord-Engelse hospitaal wat deur Ogilvie kwoteer word. Hiervolgens het 1% van die pasiënte gedurende hul verblyf in die hospitaal gesterf. 99% is as 'genees' ontslaan. Vyf jaar later is egter gevind dat 'n verdere 10% dood is en dat 55% nog aan 'n slegte dispepsie gely het.

Wat ons veral met mediese behandeling tref is die aansienlike aantal pasiënte wat, kort nadat hulle 'n 'deeglike' kuur in die hospitaal ondergaan het, weer terugkeer. Na hul terugkeer herstel hulle nie sonder 'n uitgerekte tydperk van dieetkundige en mediese behandeling met inkorting van werk en spel en onthouding van baie van die dinge wat die lewe aangenaam maak nie.

Ons wil egter meteens erken dat die chirurg tot 'n groot mate alleen dié pasiënte sien wat nie ten volle by mediese behandeling gebaat het nie. Hy is selde bewus van die groot getalle wat wel met konserwatiewe metodes genees is.

NIE-OPERATIEWE BEHANDELING

Ten spyte van die donker prentjie wat ek geskilder het, het ek tog geen twyfel nie dat die behandeling van peptiese sere in die eerste plek—en vir geruime tyd—van mediese aard moet wees. Ek het alte dikwels gesien hoe ulcera na mediese behandeling verdwyn en die pasiënt vir jare—indien nie vir die res van sy lewe nie—simptoomvry bly.

Hoe vroeër ons die simptome van 'n pasiënt as dié van 'n ulcus herken, hoe sorgsamer die behandeling geskied, hoe beter is die vooruitsig op sukses met mediese behandeling. Ook moet die ouderdom van die pasiënt hier in ag geneem word. Hoe jonger die pasiënt, hoe beter die kans op sukses, waarskynlik omdat daar by die jonger pasiënt relatief minder litteken-weefsel aanwesig is. Hoe langer egter die ulcus aanwesig is en hoe meer dikwels daar 'n herhaling was hoe geringer word die kans op sukses met mediese behandeling. Hoofrede hiervoor is die groter omvang van die litteken-weefsel wat ontstaan het, die vervorming van die orgaan, die neiging tot stenose en penetrasie tot in die naasliggende organe soos die pankreas, die mesenterium en die lewer. Ek wil nie beweer dat selfs so 'n gevorderde ulcus nie kan verdwyn nie, maar al verdwyn hy ook dan bestaan die genesing uit die bedekking van die litteken met 'n enkele lagie epiteelselle. So 'n litteken kry net so maklik aanstoot as die dun lagie vel oor die harde litteken wat gevolg het op 'n ulcus op die skeen van 'n lyer aan spatate. Meermale het ek opereer op pasiënte wat 'n langdurige geskiedenis en tipiese simptome, asook radiologiese tekens, van 'n ulcus gehad het en by die operasie het ek geen aktiewe ulcus kon vind nie, slegs 'n litteken, soms twee littekens, een in die maag en een in die duodenum. Na 'n gastrektomie op sulke pasiënte verdwyn alle simptome presies soos in 'n geval van aktiewe ulserasie. Dit skyn redelik duidelik te wees dat die genesing van so 'n diep penetrerende ulcus op dié wyse nie noodsaaklik tot verdwyning van simptome lei nie en seer sekerlik geen waarborg teen 'n herhaling bied nie.

AANDUIDINGS VIR OPERATIEWE BEHANDELING

Dis maklik om te sê dat operatiewe behandeling toegepas moet word wanneer ons met konserwatiewe metodes geen beterskap kan verkry nie of waar dit uit die staanspoor duidelik is dat ons geen sukses kan verwag nie. So eenvoudig is die saak egter nie. Heelwat ondervinding

is nodig alvorens mens in 'n individuele geval enige dogmatiese uitspraak kan gee. So onlangs nog is ek gevra om 'n aanbeveling te maak in die geval van 'n ouerige dame by wie daar twee ulcera aan die kleiner boog naby die oesophagus gesien kon word. Die chirurg wou dadelik opereer uit vrees vir kwaadaardigheid. My kontensie was dat die X-straalfoto's geen absolute aanduiding van 'n karsinoom getoon het nie, dat slegs 'n totale gastrektomie in so 'n pasiënt enige hoop op sukses sou hê, dat die pasiënt weinig kans staan om so 'n ernstige ingryping te oorleef en dat daar in elk geval geen rede was om so oorhaastig op te tree nie. Die praktisyn het my raad gevolg, mediese behandeling toegepas en minder as drie weke later bel hy my om te sê dat die jongste X-straalfoto's toon dat die ulcera geheel en al verdwyn het!

Die resultaat van die behandeling van peptiese ulserasie word verbeter deur noue samewerking tussen internis en chirurg wat slegs tot die voordeel van die pasiënt kan strek. Volgens my ondervinding is die internis oor die algemeen geneig om hom 'n bietjie langzaam te haas met die aanbeveling van snykundige behandeling van 'n ulcus van die maag, terwyl die chirurg aan die ander kant, dikwels in die geval van 'n ulcus in die duodenum oorhaastig is om 'n operasie aan te beveel.

Waarskynlik kan ons geen van beide hiervoor blameer nie. Die geaardheid van die pasiënt is tot 'n groot mate die deurslaggewende faktor. 'n Maagseer kom so dikwels voor in die meer gemoedelik, minder ambisieuse, minder haastige en meer passiewe soort mens wat tevrede is met die minder dramatiese metodes van die internis, wat hou van sy sagte kosse, sy poeiers, sy inspuitsings en 'n daaglikse moedgewende geselsie. Die duodenaalseer, aan die ander kant, is die nagmerrie van die sorgsame, hardwerkende, vooruitstrewende besigheidsman en bestuurder. Hy het nie die geduld om 'n langdurige kuur deur te maak nie, sekerlik nie by herhaling nie. Weens sy oormate van suur word sy eetlus nie bevredig deur die afgemete sagte spyse wat voorgeskryf word nie. Sy drang om vinnig beter te word laat hom dus gouer in die hande van die slagter beland! Dit is ook altyd moontlik om sy ulcus uit te slag maar nie altyd sy humeur nie. 'n Resultaat wat deur die minder ambisieuse as 'wonderlik' beskryf sou word, word deur hierdie pasiënt as 'middelmatig' bestempel. As hy daarby ook nog weier om 'n ompad by die wingerd te loop dan mag hy die resultaat eindelik selfs as 'sleg' aan die chirurg verwyte.

Indien ons daarin slaag om die lokvalle te vermy wat in ons pad gelê word deur die sielkundige samestelling van die hooffiguur in hierdie drama—die pasiënt—dan is dit tog moontlik om met groot sekerheid die indikasie vir chirurgiese behandeling aan te dui en dan kan ons vooruitsien na resultate waarop ons trots kan wees.

Dan kan ons verwag dat 90% van ons pasiënte hul beterskap as 'wonderlik' sal beskryf.

Wat is dan hierdie aanduidings?

Ulcus van die Maag. As 'n maagseer nie binne een jaar met goeie mediese behandeling—of sulke goeie behandeling as wat onder die besondere omstandighede van die pasiënt moontlik is—genees is nie, dan kan ons met redelike sekerheid voorspel dat hy nooit gesond sal word nie. Hy moet dus operatief behandel word.

Ulcera wat deur die hele dikte van die maagwand gedring het en meer dan 'n half duim in deursnit is en ulcera wat tot in die omliggende organe deurgedring het, moet as ongeneesbaar beskou word. Al groei daar selfs 'n epiteelbedekking oor hul oppervlakte, dan ulseer hulle later tog weer as gevolg van die geringste aanstoot.

Enige kliniese of radiologiese tekens van kwaadaardigheid is vanselfsprekend 'n aanduiding vir operasie. Ek kan nie sterk genoeg die noodsaaklikheid van 'n operasie by alle persone wat 'n dispepsie vir die eerste maal na 45-jarige leeftyd ontwikkel, waar die X-straal-foto 'n ulcus binne een duim vanaf die pylorus vertoon of op enige deel van die maag anders as die tipiese ulcus-lokaliteit van die kleiner kurwe beklemtoon nie. Die blote vrees dat 'n ulcus 'n kwaadaardige verandering mag ondergaan is egter nie genoegsame rede om te opereer nie. So iets gebeur baie selde. Ek het ondervind van slegs een geval waar ek oortuig is dat dit ontseggelik plaasgevind het.

Ulcus van die Duodenum. In die geval van die duodenaal-ulcus betaal dit om 'n konserwatiewe houding aan te neem. Dis moeilik om vas te stel of 'n pasiënt nou werklik 'n deeglike dieetkundige en alkaliese behandeling gehad het. Die geaardheid van die pasiënt is dikwels só dat hy sy gesondheid noodwendig verwaarloos, en ons besef dat hy ook na die operasie sy onverskillige eetgewoontes sal handhaaf en sy drank en sigarette nie sal prysgee nie. Laat ons dus in sulke gevalle, as die geskiedenis redelik kort is, nie oorhaastig wees om te opereer nie. Aan die ander kant hoef ons nooit te aarsel as die simptome so ondraaglik geword het dat die pasiënt op 'n operasie aandrang nie. So iets gebeur omdat aanvalle van ulserasie by herhaling hul verskyning maak, omdat stenose begin ontwikkel het en omdat penetrasie tot in die kop van die pankreas gegaan het. In vroëre gevalle is daar miskien aanvalle van vomering, soms ver uitmekaar, daar is gewigsverlies of daar ontwikkel pyn in die rug. Sulke simptome is aanduidings vir 'n operatiewe ingryping. Waar 'n pasiënt oor 'n periode van 'n paar jaar etlike aanvalle van bloeding gehad het moet ons op 'n operasie aandrang anders loop hy gevaar om binne afsienbare tyd 'n noodlottige bloeding te ontwikkel. 'n Enkele massiewe bloeding in 'n pasiënt met 'n radiologies bewese ulcus in die maag of duodenum, is 'n baie sterk indikasie ten gunste van 'n operasie. 'n Tweede bloeding is nie alleen 'n absolute indikasie daarvoor nie maar mag helaas, na 'n noodlottige einde, die draer wees van 'n boodskap van bittere verwyt dat ons nie reeds na die eerste bloeding chirurgies ingegryp het nie.

Ek moet egter waarsku teen die neiging om te opereer vir 'n bloeding al is hy ook hoe massief, waar die geskiedenis nie met sekerheid 'n ulcus aandui nie, of waar positiewe radiologiese bevindinge nie beskikbaar is nie. Alte dikwels ontstaan sulke groot bleedings by spatate van die oesophagus.

DIE OPERASIES

'n Beskrywing van die verskillende soorte operasies wat vir peptiese ulcera gedoen word kan in enige snykundige handboek gelees word en hoef hier nie herhaal te word nie. Ek wil net slegs die volgende paar opmerkings volstaan:

1. Die reseksie van die maag moet van voldoende omvang wees. Nóg te min nóg te veel moet verwyder word. Die hoeveelheid suur aanwesig is tot 'n mate 'n aanduiding van die omvang wat die reseksie moet neem. In die reël gaan ek hoër op vir 'n duodenaal- dan vir 'n maagseer. Dis noodsaaklik om die liggaam van die maag met sy hoë konsentrasie van soutsuur-produiserende selle te verwyder. Ek trag altyd om soveel van die kleiner kurwe en middeldeel te verwyder as ek kan en liever toe te gee aan die kant van die groter kurwe al is daar ook heelwat pariëtale selle. Die arteria gastrica sinistra word vroegtydig afgebind om die maag so mobiel as moontlik te maak en aan die kant van die groter kurwe maak ek die omentum so ver los as wat my in staat sal stel om die maag maklik na benede en na regs te trek. Ek maak die maag aan hierdie kant veel hoër los as wat ek van plan is om met my reseksie te gaan. Op 'n vroë stadium word alle natuurlike buikvliesaanhegtings en patologiese vergroeiings in die kleiner omentumsak losgemaak. Die duodenum word onderkant die ulcus deurgesny tensy 'n oormaat van littekenweefsel dit totaal onmoontlik maak. Eers nadat beide maag en duodenum ten volle gemobiliseer is besluit ek op welke punt ek die groter kurwe sal sny. Wat die kleiner kurwe betref begin ek altyd onmiddellik onderkant die aansluiting van die oesophagus. Sonder om myself aan 'n vaste reël te bind, kies ek meesal 'n punt op die aansluiting van die boonste en middelste derdes van die groter kurwe. Alleen nadat ek die reseksie van die maag voltooi het, besluit ek op die tipe anastomose wat ek moet uitvoer. Indien die duodenum mobiel en lank genoeg is en die maag ook lank genoeg is om 'n aansluiting sonder spanning direk met die duodenum te bewerkstellig, dan maak ek so 'n direkte anastomose, afgesien daarvan of die operasie vir 'n duodenaal- of vir 'n maagseer gedoen word. Ten spyte van die feit dat mens reeds 'n deel van die duodenum verwyder het en dat mens weens die oortollige suur in hierdie gevalle 'n hoër reseksie doen, vind ek tog dat ek 'n direkte aansluiting, d.i. die Billroth I-tipe anastomose, nogal dikwels kan uitvoer selfs in gevalle van duodenaal-ulserasie. In my jongste 23 gevalle van duodenaal-ulcus het ek dit 11 keer gedoen. In die geval van 'n maagseer doen ek hierdie tipe kortsluiting meer dikwels. In die jongste 10 gevalle het ek dit 7 keer gedoen.

Om 'n te klein deel van die maag te verwyder by reseksie vir duodenaal-ulcera is heeltemal verkeerd. Dit lei nie noodsaaklik tot 'n anastomotiese ulcus nie, maar laat die pasiënt tog met 'n suur dispepsie. Aan die ander kant is dit net so verkeerd om te groot 'n deel van die maag te verwyder. Afgesien van die bloedarmoede en gewigsverlies wat daardeur ontstaan is dit seker een van die belangrikste oorsake van 'n na-gastrektomie-dispepsie veral die hewigste vorm daarvan, die sogenaamde 'dumping'-sindrome, of 'skotskar'-sindrome soos ek dit graag noem. In gevalle waar die suur-inhoud van die maag so uitermate hoog is dat ek die ontstaan van 'n anastomotiese ulcus vrees, verkies ek om saam met die gastrektomie ook 'n vagotomie te doen, liever as om die reseksie van die maag alte radikaal te maak. Dit help nie om die pasiënt van die pyn van sy ulcus te bevry nie en hom met 'n magie te laat wat haas geen kos kan bevat nie, en nie genoegsame suur afskei

om selfs daardie bietjie te verteer nie. So 'n meesterstuk van tegniek maak van hom 'n permanente invalide.

2. Ek maak nooit 'n aansluiting voor die colon transversus nie, tensy die toestand van die mesenterium van die colon transversus my daartoe dwing, soos soms by karsinoom-gevalle gebeur asook by 'n reseksie wat op 'n vroeë gastro-enterostomie volg. Ek is bewus daarvan dat dié soort anastomose algemeen gedoen word en dat internasionaal-erkende chirurgie dit aanbeveel. Ek is egter netso oortuig daarvan dat in sommige gevalle die dispepsie wat op 'n gastrektomie volg hierdeur veroorsaak word. Die colon is nes 'n vroumens, totaal onberekenbaar, die eendag leeg en plesierig, die ander dag opgeblaas en vol grille. 'n Vol colon kan nie anders as om 'n verplasing van die anastomose te veroorsaak, die jejunum te buig en 'n ophoping van gas in die maag te weeg te bring nie. Die ekstra tyd en arbeid wat deur 'n aansluiting agter die colon vereis word is m.i. altyd die moeite werd. Die moeite is in elk geval nie so groot as mens die mesenterium aan die agterste wand van die maag heg voordat jy met die reseksie daarvan begin nie.

3. Ek verkies om geen klampies op die maag te gebruik nie. Ek vang liewer elke bloei-puntjie afsonderlik en bind dit sorgvuldig af. Ek beskou ook die gebruik van diatermie om bleeding te stop as onbetroubaar by maagreseksies. By die duodenum gebruik ek ook nie 'n klampie nie. Ek sny hom deur en naai hom later sorgvuldig toe nadat ek besluit het om nie 'n Billroth I-tipe aansluiting te maak nie. Ek het nog nooit nodig gehad om 'n pasiënt oop te maak vir na-operatiewe bleeding nie. Ek het dit eenmaal darem ampertjies moes doen nadat ek die bloei-punte met die diatermie-masjien geskroei het.

4. Ek twyfel of dit saak maak of die proksimale deel, dan wel die distale deel van die jejunum aan die kleiner kurwe-kant van die maag geheg word. Ek het vir 'n lang tyd, met opset, in al om die ander geval, die aansluiting andersom gemaak en kon geen onderskeid in die resultate bespeur nie.

5. Ek is uit persoonlike ondervinding nie oortuig dat dit 'n verskil maak as mens die stompie van die maag in 'n nou of in wye poort by die aansluiting met die jejunum laat uitmond nie. Wat wel belangrik is, is om die toevloeiende deel van die jejunum so hoog moontlik aan die klein kurwe te heg. Dit gooi nie alleen die maagstroom direk in die wegvloeiende deel nie, maar vermy ook 'n akute buiging by die aansluiting. Ons moet ook nie vergeet dat ons aansluiting alleen só wyd kan wees as die deursnit van die jejunum nie. Ons moet dus nie in ons onnodige vrees vir 'n lekkasie sulke groot happe van die jejunum gryp en soveel lagies hegtings aanbring dat ons die jejunum vernou nie. Weens die feit dat ek my reseksie aan die kleiner kurwe-kant net onderkant die aansluiting van die oesophagus begin en die snit skuins-weg na die groter kurwe laat gaan, bring dit in elk geval mee dat die regterkant van die maag op 'n wyse gesluit word wat slegs 'n nou poort aan die linker kant laat oorbly.

PERSOONLIKE RESULTATE

Om 'n idee van my resultate te kry het ek al die gevalle van gastrektomie vir peptiese sere wat ek sedert Januarie

1951 in my private praktyk gedoen het, nagegaan. Behalwe 4 is al die pasiënte in die Volkshospitaal, Kaapstad, opereer. Die feit dat hulle private behandeling verkies het dui aan dat hulle almal, ekonomies gesproke, uit die hoër inkomste groep kom. Aangesien hulle betaal vir die dienste wat hulle ontvang moet ons ook aanneem dat hulle redelik krities sal staan teenoor enige slegte resultate, maar ook waarderend sal wees indien die resultaat goed is. Aangesien almal private pasiënte is, is ek in staat om my resultate in slegs 'n betreklike klein reeks van gevalle te verskaf. Onder die omstandighede wat ek genoem het, het ek egter rede om te verwag dat ek 'n besonder betroubare weergawe kan verstrek van die resultate wat verkry is.

Die verhouding van duodenaal- tot maagseere en dié van mans tot vroue kan gesien word in Tabel I, dié van die Polya- tot die Billroth I-tipe van anastomose in Tabel II.

TABEL I

Duodenaalseere		Maagseere		Anastomotiese Sere		Totaal
Mans	Vroue	Mans	Vroue	Mans	Vroue	
41	6	18	6	3	0	74
	47		24		3	

TABEL II

Duodenaalseere		Maagseere		Anastomotiese Sere Polya
Polya	Billroth I	Polya	Billroth I	
34	13	15	9	3

Die ouderdomme strek van 18 jaar tot 78 jaar.

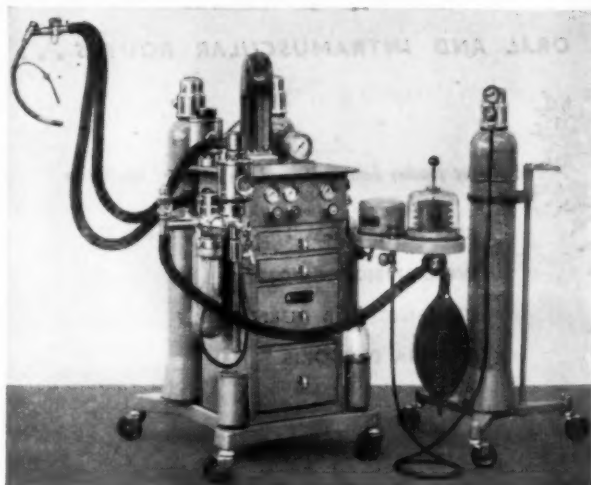
Daar was geen sterfgevalle as gevolg van die operasie nie. Geeneen van my pasiënte op wie ek in die eerste instansie 'n maagreseksie gedoen het, het 'n anastomotiese ulcus gekry nie. Ek het wel onlangs 'n geval gehad, dit is 'n pasiënt op wie elders 'n reseksie gedoen was. Hy het 'n anastomotiese seer ontwikkel. Ek het gevind dat slegs 'n klein deel van die maag verwyder was en het toe 'n baie hoë gastrektomie gedoen. Binne ses weke het die pasiënt weer 'n ulcus gehad. Daarna het ek 'n vagotomie gedoen en tot dusver is daar nie weer moeilikheid nie. Ek erken dat die tydsverloop kort is, dog te oordeel aan die toestand van selfs die minder gesondes, twyfel ek of daar so iets later by enigen kan ontwikkel, behalwe moontlik by een van die pasiënte, 'n hotelbaas wat in alle opsigte te lekker lewe.

Geen enkele pasiënt is slegter daaraan toe as voor die operasie. Alle pasiënte voel veel beter as voor die operasie. In slegs 4 gevalle is daar nog 'n mate van dispepsie, maar niks te vergeleke met hul voor-operatiewe simptome nie. Een van die 4 is die bogenoemde hotelbaas. Drie pasiënte bly maer.

Die resultate by vroue, of hulle nou aan 'n duodenaalseer of aan 'n maagseer gely het, is deur die bank baie goed.

Die oorgrote meerderheid van die pasiënte beskryf die resultaat van hul operasies as 'wonderlik' of 'baie goed' of 'ek moes die operasie jare eerder laat doen het.' Na jare van lyding is hulle weereens instaat om hul werk te doen, hul maatskaplike pligte uit te voer, normaal te eet en te drink en in alle opsigte die lewe te geniet.

Ek wil terselfdertyd byvoeg dat daar nog nie in 'n enkel geval van 'n gastrektomie, wat ek 'n langer tyd gelede gedoen het en wat nie hier in oënskou geneem is nie, 'n anastomotiese ulcus ontwikkel het nie.



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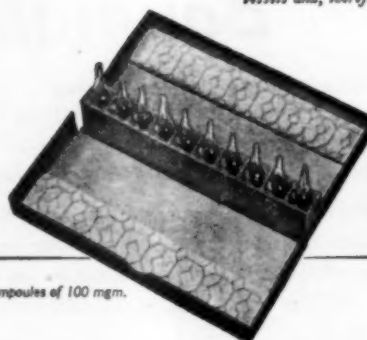
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South African Medical Journal

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VAN DIE REDAKSIE

NALORFIEN

Nalorfien (n-allylnormorfien, 'nalline', 'lethidrone'), is vir die eerste keer in 1941 berei.¹ Dit word van morfien verkry deur die n-metielgroep met 'n n-allylgroep te vervang. Dit is proefondervindelik bewys dat dit die daling in asemhaling wat deur morfien veroorsaak word, teëwerk.² Klinies word dit as analeptiese middel gebruik vir pasiënte wat ly aan die gevolge van groot dosisse morfien, morfienderivate, petidien en metadoon ('amidon') of vir pasiënte wat oorgevoelig vir hierdie middels is. Nalorfien ageer vinnig, dit keer onmiddellik die daling in die asemhaling en verhoog die minuut-volume en die asemhalings tempo. Dit kan ook die daling in bloed- en polsdruk, die hart-aritmie, en die verlies aan oppervlakkiger en dieper refleksie wat deur hierdie verdowingsmiddels veroorsaak word,³ keer. Klein dosisse van hierdie middel is doeltreffend en veroorsaak nie die stuiptrekkings in pasiënte nie wat wel met die toediening van niketamid of leptasol kan plaasvind.

Verskeie artikels is al gepubliseer oor die gebruik van nalorfien en die dramatiese resultate wat dit lewer met die behandeling van pasiënte wat aan morfien-,⁴ petidien-,⁴ metorfinaan ('dromoran'),⁷ en metadoon-vergiftiging⁶ ly. Dit het geen uitwerking nie op die daling in die asemhaling wat deur die barbituraat- en inasemingsverdowingsmiddels veroorsaak word. Op die gebied van verloskunde is nalorfien van waarde. Dit kan aan die moeder toegedien word omtrent 10 minute voordat die geboorte verwag word om haar eie verdowing asook die gevolglike fetusdepressie teen te werk. Op hierdie wyse het dit pasgebore op dramatiese manier van verstikking gered wat op die toediening van morfien of petidien gevolg het.⁸ Pynstillende middels wat deur nalorfien teengewerk kan word, kan nou met meer doeltreffendheid en groter vrymoedigheid in baie soort gevalle gebruik word; bv. die gevaar van 'n depressie van die fetus as gevolg van diep morfienkalmering tydens die voorbehandeling vir 'n keisersnit of tydens eklampsie kan nou vermy word.

Nalorfien is 'n sterk teenstander van ander uitwerkinge van morfien. Dit is onlangs ontdek dat dit die antidiurese-effek van morfien teenwerk. Nalorfien het self nie 'n diurese- of antidiurese-uitwerking nie en dit bestry nie die werking van die antidiurese-hormoon ('vasopressin') nie, maar dit dwarsboom die werking van morfien,

EDITORIAL

NALORPHINE

Nalorphine (n-allylnormorphine, 'nalline', 'lethidrone'), first prepared in 1941,¹ is derived from morphine by the substitution of an n-allyl group for the n-methyl group. It was soon shown experimentally to antagonize the respiratory depression produced by morphine.² Clinically it has been used as a rapidly-acting analeptic in patients suffering from the effects of large doses of morphine and its derivatives, or of pethidine or methadone ('amidon'), or showing idiosyncrasy to these drugs. It promptly reverses the respiratory depression and increases the minute-volume and the rate of respiration. It may also reverse the fall in blood pressure, the decrease in pulse pressure, the cardiac arrhythmia, and the loss of superficial and deep reflexes produced by these narcotic drugs.³ The drug is effective in small doses and does not produce in man the convulsions that may occur if nikethamide or leptazol is used.

Several articles have appeared on the use of nalorphine and its dramatic effects in the treatment of poisoning in man by morphine,⁴ pethidine,⁴ methadone,⁶ and methorphan ('dromoran').⁷ It is ineffective in respiratory depression produced by barbiturates and inhalation anaesthetics. Nalorphine is proving useful in obstetrics. It can be given to the mother some 10 minutes before the expected time of delivery to counteract both her own narcotization and the consequent depression of the foetus. It can also be injected into the infant immediately after delivery. Thus it has produced dramatic effects in neonatal asphyxia due to morphine or pethidine.⁸ There are many types of case in which analgesics of the kind antagonized by nalorphine may now be used more adequately and with greater freedom, e.g. in premedication for Caesarean section, and in eclampsia the risk of foetal depression due to heavy sedation with morphine is obviated.

Nalorphine is a potent antagonist of other actions of morphine. It has been found recently to antagonize the antidiuretic effect of morphine. Nalorphine itself has no diuretic or antidiuretic action and does not antagonize the action of the antidiuretic hormone ('vasopressin'), but it blocks the action of morphine,

waarskynlik in die hipotalamus—en verhoed dat morfiën die antidiurese-hormoon⁹ vrystel.

Nalorfiën word nie gebruik nie met die behandeling van pasiënte wat aan verdowingsmiddels verslaaf is. As die middel aan sulke pasiënte gegee word kan hul tipiese onthoudingskentekens toon soos bv. neusvloed, gaap, traanafskeiding, hoendervleis, vomering en rusteloosheid.³

Op normale individue het nalorfiën slegs 'n effens morfiënagtige, pynverdwende uitwerking maar as groot dosisse toegedien word kan die middel self die asemhaling verlaag. Dit is blykbaar betreklik veilig maar dit is waarskynlik gevaarlik om meer as 40 mg. in een enkel dosis toe te dien. Miose, dooierigheid, slaperigheid in 'n ligte graad, sweet en somtyds mislikheid en bleekheid kan op groot dosisse volg. Vir volwassenes word nalorfiën chloorwaterstof of bromiedwaterstof in dosisse van 5-10 mg. binnears ingespuut; die uitwerking duur van 2-3 uur. Dit kan ook binnespiers en onderhuids ingespuut word. Die herhaling van dosisse en die wyse van toediening sal van geval tot geval verskil. Dit is bv. in dosisse van 0.25 mg. aan pasgeborenes of binnears in die nawelstring of binnespiers in die agterboudjie ingespuut. Aangesien nalorfiën 'n morfiënderivaat is word die gebruik daarvan beheer deur die wet op verslaafmiddels.

Die werking van nalorfiën is farmalogies eerder as chemies. Die mening is dat nalorfiën die werking van morfiën en verwante middels omkeer of verhoed deur die metielgroep van die verdowingsmiddel met sy eie allielgroep in die ontvanger-orgaan te vervang. Gevolglik keer dit die daling in die asemhaling sonder om die kalmerende en pynstillende uitwerking te steur.

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probably in the hypothalamus, and prevents the release of antidiuretic hormone by morphine.⁹

Nalorphine is not used as a cure or for the relief of narcotic addiction. In addicts the administration of the drug may produce typical abstinence symptoms such as yawning, rhinorrhoea, lacrimation, gooseflesh, vomiting, and restlessness.³

In normal individuals nalorphine has only a weak morphine-like analgesic action, but in large doses the drug can itself cause respiratory depression. It appears to be relatively safe, but it is stated that it would probably be dangerous to exceed 40 mg. in a single dose. Large doses can cause miosis, lethargy, mild drowsiness, sweating, and occasionally nausea and pallor. Nalorphine hydrochloride or hydrobromide is given by intravenous injection in doses of 5-10 mg. for an adult; the effect lasts 2-3 hours. It can also be given by the intramuscular and subcutaneous routes. The frequency of the doses and the route of administration will vary from case to case. For obstetrical use it has been given, for example, in doses of 0.25 mg. to the newborn infant either intravenously in the umbilical cord or intramuscularly in the buttock. Being a morphine derivative the use of nalorphine is controlled by the law concerning habit-forming drugs.

The action of nalorphine is of a pharmacological rather than a chemical nature. It is believed to prevent or reverse the action of morphine and related drugs by replacing the methyl group of the narcotic drug in the receptor organ by its own allyl group. As a result the depressant effect on respiration is overcome, yet the sedative and analgesic effects remain unaltered.

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SOUTH AFRICAN MEDICAL CONGRESS

As already announced, Federal Council has accepted the invitation of the Northern Transvaal Branch to hold the next medical congress in Pretoria during the week 17-22 October 1955. The centenary of the City of Pretoria falls in that week, and interest will be added to the congress by the centenary celebrations. The Pretoria members informed Federal Council that there would be enough hotel accommodation for the needs of the congress, but that it was advisable for those meaning to attend to make early bookings. The Pretoria meeting will be the 40th in the series of South African Medical

Congresses. The last occasion when congress was held in Pretoria was in 1948.

An invitation was also received from the Natal Coastal Branch to hold the 1955 congress in Durban, but in view of the conjunction of the civic centenary celebrations at Pretoria the Branch readily concurred in the suggestion that the Durban congress should take place in the following year. This is accordingly to be arranged, and the date of the 41st congress will be announced later.

An invitation is anticipated from the Border Branch to hold the 42nd congress in East London.

THE SURGERY OF HIATUS HERNIA AND ITS COMPLICATIONS

REVIEW OF TWENTY-FIVE CASES

DENIS FULLER AND DAVID ADLER

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Mrs. A.S. aged 45 years was referred by her doctor with the following history. For about 10 years she had suffered from belching, dyspepsia and nausea, worse on lying down and on bending forwards. A barium series was negative except for diverticulosis. Ulcer therapy and a subsequent cholecystectomy for chronic cholecystitis failed to relieve her of these symptoms. Subsequently a burning epigastric pain with her meals developed. These pains persisted and later she began to experience retro-sternal pain and slight exertional dyspnoea, for which she was treated as a mild angina though her electrocardiograms were normal. She continued to lose weight because of dietetic restrictions, which were of little benefit. She occasionally vomited and 3 months before consultation she developed a severe boring pain associated with frank haematemesis. Because of this the barium meal was repeated and on this occasion a sliding hiatus hernia was discovered. Following repair of this she remained well.

The frequency with which these hiatal symptoms are either misinterpreted, or inadequately treated with the development of disabling complications compared to the satisfactory outcome from surgical repair, justifies, we believe, this communication.

INCIDENCE

Hiatus hernia is a relatively common condition in early infancy and in many is probably the cause of the belching and vomiting which, in the first year of life, worries so many infants and their mothers. These symptoms are usually transient and the sliding hernia evanescent. Carre¹ found 18 cases per annum under 12 months of age at a Children's Hospital, but almost all were well by 2 years. This high percentage of spontaneous regression to normal is probably due to the late development of the anatomical factors described below. Again over the age of 50, especially in fat multiparous women, hiatus hernia is a common and often unrecognized cause of indigestion. In these older persons the hernia tends to become larger, the symptoms more marked and distressing, and the complications more severe, with the passage of time. This is certainly due to a progressive weakening of the same structural factors. Avery Jones² states that at the Central Middlesex Hospital the diagnosis of hiatus hernia increased from 5 in 1947 to 61 in 1951. Brick³ found 9% of hiatus hernia in 3,448 patients undergoing radiological examination of the gastro-intestinal tract in the presence of symptoms. In comparison he found only 1.3% in 300 asymptomatic controls over the age of 50. He concludes that 'the finding of an hiatus hernia in a patient with symptoms cannot be treated lightly'. We must emphasize, however, that in this age-group one must carefully exclude other serious concomitant abdominal lesions even in the presence of an hiatus hernia.

Sex. Most sliding hiatus herniae occur in women but in our experience a male is more likely to develop a

stricture—in keeping with the higher incidence of peptic ulceration in the male. A break-down of our cases shows:

	Hernia	Hernia with Stricture	Total
Males	3	9	12
Females	9	4	13
	12	13	25

Age. We have seen serious haematemeses in an infant male of 6 months and a stricture from peptic oesophagitis associated with a duodenal ulcer in a male aged 72. The classification by age is as follows:

Age-Group (Years)	Cases
0—10	4
11—20	1
21—30	1
31—40	2
41—50	6
51—60	3
61—70	6
70—	2
	25

We have seen 50 diaphragmatic herniae, of which 43 were through the oesophageal hiatus. They are classified as follows:

	Cases
A. Congenital	
1. Foramen of Morgagni	1
2. Foramen of Bochdalek	1
3. Hiatus Hernia	43
(a) Para-Oesophageal	0
(b) Sliding, Children	7
Sliding, Adults	35
Sliding, Oesophago-aortal	1
B. Traumatic	
1. Closed Injuries	4
2. Penetrating	1

Surgical Anatomy. There are broadly 2 varieties of hiatus hernia:

1. *Para-oesophageal hernia* (see Fig. 1). Here the cardio-oesophageal junction retains its normal relationship below the diaphragm and a pouch of stomach herniates up into the mediastinum in front of the oesophagus. This type causes fullness after meals, palpitations, dyspnoea, anaemia, but never acid regurgitation. We have had no such cases.

2. *Sliding Hiatus Hernia* (see Fig. 2). Here the cardio-oesophageal junction's normal relationship is lost and regurgitation of acid occurs into the oesophagus with the frequent development of symptoms. According

to Allison⁴ there are 3 anatomical factors which prevent this slide and which maintain the cardio-oesophageal junction below the hiatus and the normal oblique entry of the oesophagus into the stomach, viz.:

(a) 'The oesophagus takes a bend forwards and to the left at the oesophago-gastric junction and this bend is lassoed and maintained by the right crus of the dia-

phagus, so that the normal sling is not separated or divaricated but is completely absent. The defect is therefore bounded medially and to the right by the right crus but on the lateral and left aspect by the left crus. They state that the hernia passing up through this defect is more prone to cause respiratory-cardiac symptoms. Why this should be so we cannot understand

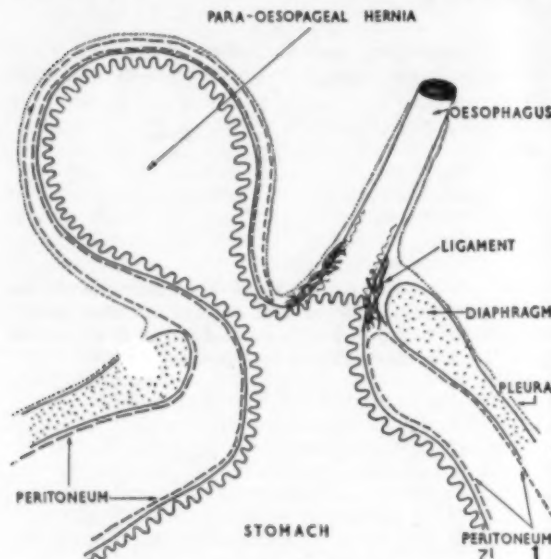


Fig. 1. This diagram illustrates a *para-oesophageal hernia*. Note that the cardio-oesophageal junction is situated normally and that the stomach herniates through the diaphragm adjacent to the oesophageal hiatus.

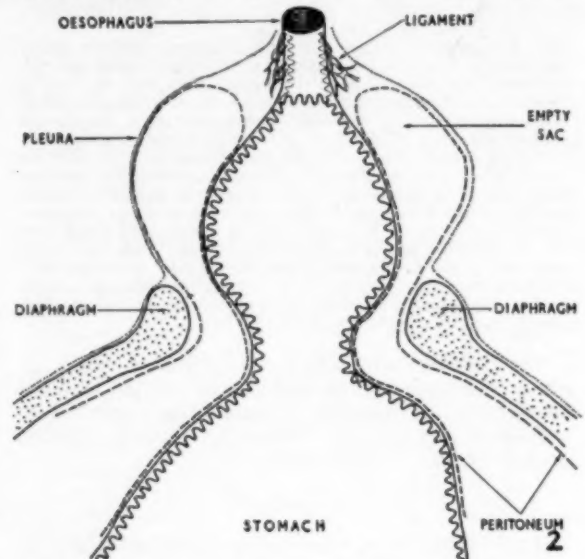


Fig. 2. This diagram illustrates a *sliding Hiatus hernia*. Note that the cardio-oesophageal junction lies well above the diaphragm, that the angle between oesophagus and cardia is lost, and that there is a hernial sac around the herniated portion.

phragm, which hitches it down to the lumbar spine. Contraction of this right crus in inspiration compresses the oesophagus from side to side and increases the angle described above. This prevents acid regurgitation from stomach to oesophagus. If the hiatal opening is enlarged posteriorly by further splitting or weakening of the right crus the stomach will slide up into the mediastinum'.⁴ Lam⁵ describes a crural membrane of loose areolar tissue which lies between the crura posterior to the oesophagus. Splitting of the crura posteriorly will weaken this membrane and allow a slide.

(b) The oblique line of entry of the oesophagus into the stomach, with contraction of circular muscles at the lower end of the oesophagus, and the contraction of the oblique fibres at the adjacent cardia act as a second line of defence preventing regurgitation.

(c) The relation of the cardio-oesophageal junction to the diaphragm is normally maintained by a circumferential ligamentous attachment, the phreno-oesophageal ligament. If this is disrupted the angle between oesophagus and cardia is lost and regurgitation will ensue. Adams and Lobb⁶ have recently described what they term oesophago-aortal hernia as a special type of sliding hernia. In this type there is a complete deficiency of the decussating fibres of the right crus and of the crural membrane posterior to the oeso-

phagus, so that the normal sling is not separated or divaricated but is completely absent. The defect is therefore bounded medially and to the right by the right crus but on the lateral and left aspect by the left crus. They state that the hernia passing up through this defect is more prone to cause respiratory-cardiac symptoms. Why this should be so we cannot understand

PATHOLOGY AND PATHOGENESIS

Just as the bowel and bladder sphincters do not function efficiently in infancy so, we believe, is there delay in the establishment of the crural sphincteric action of the diaphragm which prevents or reduces a sliding hernia. Over the age of 40, again, loss of elasticity of the fibrous connective tissue of the inter-crural membrane, together with weakness of the muscular fibres of the right crus, allows increased intra-abdominal pressure to produce a hernia. Thus prolonged post-operative vomiting, chronic cough, constipation, adiposity and repeated pregnancies are all factors favouring the development of sliding hiatus hernia. Three of our cases gave a history of prolonged post-operative vomiting and 4 others had abdominal operations complicated by ileus. Dutton and Bland⁷ report several cases of hiatus hernia in pregnancy in which the herniae could not be

demonstrated after labour. They suggest that many of the 'neurotic vomiters' of pregnancy are, in fact, suffering from hiatus hernia.

Peptic oesophagitis commonly occurs in hiatus hernia and is the result of acid reflux regurgitation into the lower end of the oesophagus. Peptic oesophagitis can, however, also result from:

1. Persistent vomiting after surgery or pregnancy or from duodenal obstruction in which the high intra-gastric pressure overcomes the cardiac sphincter.

2. Surgical disruption of the sphincter such as the dangerous cardioplasty advocated until recently in the United States for cardio-spasm, or excision of the cardiac sphincter such as that which follows total gastrectomy for carcinoma or gastro-oesophagectomy for caustic strictures of the oesophagus.

3. Gastro-oesophageal reflux due to laxity of the sphincter. Lawler and McCreath⁸ say that in adults gastro-oesophageal regurgitation can occur without hiatus hernia and can cause postural pain. They describe 56 cases of regurgitation, of which only 34 had demonstrable hiatus herniae. Werbeloff and Merskey's⁹ findings differ and they state, 'The symptoms of postural pain are unrelated to gastro-oesophageal regurgitation and that this history is a feature of sliding hernia'.

Peptic oesophagitis results in an acute inflammation of the mucosa of the oesophagus, which appears fiery red, oedematous and friable, with a tendency to a chronic persistent sanguinous ooze. Ulceration soon takes place, with grayish sloughs, and the inflammatory process spreads outwards to involve each layer in turn. The characteristic feature is a replacement fibrosis extending circumferentially around the oesophagus until the whole gullet is replaced by intra-mural fibrous tissue producing a stricture. The mucosa is destroyed and there is peri-oesophageal oedema with enlargement of the regional lymph glands. At this stage the process of oesophagitis is irreversible and stricture formation continues with 'shortening' of the oesophagus due to retraction so that ultimately the appearance is that simulating a 'congenital short oesophagus'. So common is this sequel, that according to Husfelt¹⁰ the existence of a true congenital shortening of the oesophagus is questionable. This author states that spontaneous concertina-like retraction of the oesophagus gives it the appearance of being short.

In contrast to this progressive reflux peptic oesophagitis is the condition which Allison¹¹ has described as Barrett's ulcer. This is a true peptic gastric ulcer occurring in an abnormal lower oesophagus lined with gastric mucous membrane. About 10% of peptic strictures of the oesophagus are likely to be due to these gastric ulcers, which erode vessels, causing profuse bleeding, can perforate locally into the mediastinum, and like gastric ulcers of the stomach can heal without circumferential fibrosis.

In our experience a duodenal ulcer is often associated with herniation and oesophagitis—the former due to increased intra-gastric pressure and the latter to the high acid content. Three of our cases have followed shortly after partial gastrectomy performed for duodenal ulceration, a 4th case had previously perforated a

duodenal ulcer, and a 5th case was one of pyloric stenosis with a chronic history of dyspepsia.

Physiological Aspects of Reflux. Aylwin¹² has enumerated the following physio-pathological factors which are normally responsible for maintaining the epithelium of the oesophagus intact and failure of which results in reflux oesophagitis in these cases:

1. Salivary secretion, which is alkaline, buffers the acid from the cardia, and slows down activity of the pepsin.

2. During the waking daytime hours reflux of acid on squamous oesophageal epithelium causes pain, and reflex salivary secretion results, with mucus inactivating the pepsin. At night when the patient is asleep and flat the secretions from the pouch seep past the cardia and digest the oesophageal epithelium.

3. There is normally oesophageal secretion from glands under vagus control. With minor stimuli such as from minimal oesophagitis thick mucus is produced. With more powerful stimuli, as from actual oesophageal ulceration, profuse serous secretion is produced and this is not as useful as the mucus as a buffer.

4. The anatomical competence of the cardiac sphincter (usually deranged in hiatus hernia) can prevent reflux regurgitation.

5. Histology of the herniated supra-diaphragmatic pouch. The symptoms and pathology in any one patient tend to be constant, depending on the number of peptic and oxyntic cells present. If these are sparse few symptoms will be present; if profuse, the potentiated acid will cause symptoms by reflux into the oesophagus.

SYMPTOMS

	Hernia	Hernia with Stricture	Total
Dyspepsia	12	13	25
Pain Epigastric	7	13	80%
Pain Retrosternal	7	12	76%
Pain Angular	6	11	68%
Acid Regurgitation	2	1	12%
Vomiting	6	12	72%
Dysphagia	6	12	72%
Haematemesis	1	13	56%
Anaemia only	2	8	40%
	2	—	8%

A. Digestive Symptoms

1. *Dyspepsia.* There is usually a long history of flatulent dyspepsia immediately after food; this was present in 80% of our cases. Discomfort is felt at the lower end of the sternum or in the epigastrium and is described as 'heartburn'—i.e. a sensation of acid regurgitation. This symptom is typically aggravated by lying down, especially on the right side, or bending forward, in both of which positions there is an increase in the size of the hernia, with loss of the cardio-oesophageal angle and regurgitation. One of the patients found these symptoms were so severe that she ate her meals standing to obtain relief.

2. *Pain.* Severe pain is indicative of oesophagitis and at first can be immediately relieved by bland food or alkalis; it was present in 84% of our cases. Later, as ulceration occurs, the pain becomes more intense

and localized behind the lower end of the sternum, often passing through to the back, and of boring character. The pain is now often induced by taking food and is related to its consistency. Abdominal pain was present in 76% of our cases and retro-sternal pain in 68%.

3. *Salivation* is common and is especially excessive in the mornings.

4. *Dysphagia* is of two types. In uncomplicated hiatus hernia it can be paradoxical—i.e. swallowing is more difficult with fluids than with solids. In one of our cases dysphagia was due to incarceration of the hernia. In the cases complicated by advancing oesophagitis dysphagia from muscle-spasm, oedema and fibrosis becomes constant and the symptoms of oesophageal obstruction supervene. It was present in 52% of our cases. In some, acute obstruction due to an impaction of a bolus in the narrowed oesophagus—in others painful and progressive dysphagia—is the cause of great discomfort and weight loss. Ultimately chronic complete obstruction occurs and the proximal oesophagus dilates. The patient, starved of nourishment, retains his appetite and swallows food voraciously.

5. *Vomiting* took place in 50% of our uncomplicated cases and in all those who had strictures. In the latter, vomiting of the unaltered ingested food takes place

our uncomplicated herniae and in 62% of those with strictures.

Mrs. E.G., aged 38, illustrates this sequence well. At the age of 25 she had symptoms suggestive of a duodenal ulcer. Four years later she had 'dyspepsia' with vomiting. With her second pregnancy 2 years later at the age of 32 she had incessant vomiting with epigastric and retro-sternal pain passing through to the back and to the left shoulder, associated with considerable postural acid-regurgitation. The symptoms persisted, she continued to lose weight and she had repeated severe haematemesis. On 1 June 1953 she underwent an emergency closure of a perforated duodenal ulcer, and as symptoms of pyloric obstruction became severe a partial gastrectomy was performed 4 months later. Dysphagia became more marked after this procedure and as this became complete in December a feeding gastrostomy was performed. Later she was seen by Mr. Trehair, unable to swallow even her saliva and weighing only 60 pounds. He referred her to us in January 1954 at which time her barium swallow showed a long irregular stricture extending 3 inches above the diaphragm. A high calorie-vitamin drip gastrostomy feed was instituted. Diagnostic oesophagoscopy and biopsy confirmed the presence of a benign peptic stricture which was dilated to enable her to swallow her saliva, to prevent pulmonary complications and also to swallow fluids to improve her psychological state. Dilatation had to be repeated at 14 day intervals. With this regime she put on 33 pounds in 8 weeks. She subsequently underwent left thoraco-abdominal oesophago-jejunostomy, from which she made an uneventful recovery.

B. Symptoms of Anaemia

The association of anaemia with thoracic stomach was first reported in 1918 by Downes.¹³ Lassitude and breathlessness from a profound anaemia for which a cause has not been recognized is not uncommon. According to Ritchey¹⁴ 3.4% to 66.7% of cases of hiatus hernia present with anaemia. There is daily constant blood-loss from the mucous membrane of the

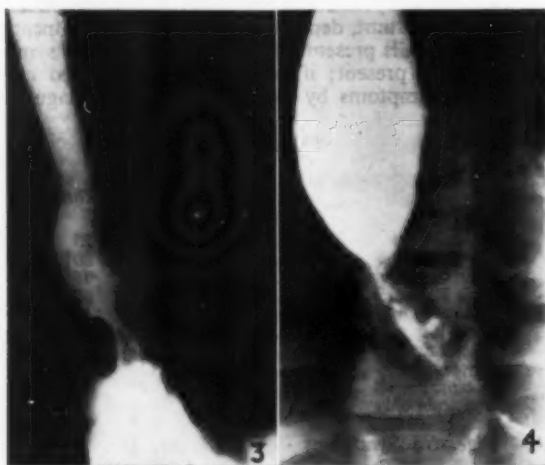


Fig. 3. This shows a sliding hernia above the diaphragm with narrowing of the distal end of the oesophagus from peptic oesophagitis.

Fig. 4. From a child of 2 years, shows marked dilatation of the oesophagus proximal to a stricture from a neo-natal sliding hernia. Note the marked ulceration on the left-hand side of the stricture. From this site haemorrhages occurred.

though the patient is under the impression that the food is actually vomited from the stomach and at this stage denies any difficulty with swallowing (see Figs. 3, 4 and 5).

6. *Haematemesis* is uncommon in these cases unless they are complicated by true peptic ulcers in a portion of oesophagus lined by gastric mucous membrane. Nevertheless haematemesis occurred in 17% of



Fig. 5. From a woman who had a gastrectomy for pyloric obstruction due to peptic ulcer, with long-standing history and evidence of a hernia. It shows dilatation of the oesophagus proximal to a 'rat-tail-like' stricture resulting from peptic oesophagitis and simulating an oesophageal carcinoma.

Fig. 6. This shows a large sliding hernia with what used to be called a 'congenital short oesophagus'. This woman had no symptoms apart from those arising from a severe anaemia.

pouch, from small erosions at the site of the oesophagitis; or from associated gastric ulcers. Others believe that there is an associated inability to absorb iron. We have had 2 cases of severe chronic hypochromic anaemia which for long were not recognized as being due to hiatus hernia.

Mrs. M.H., aged 46, noticed severe exertional dyspnoea and lassitude in 1949. She had no digestive symptoms whatsoever, but complained of pain in her back. A blood count was said to show pernicious anaemia and for 3 years she was given liver injections at 10-day intervals without much improvement. In 1952 secondary hypochromic anaemia of unknown aetiology was diagnosed. She was subsequently referred to Dr. Ziady of Pretoria, who confirmed the presence of a hiatus hernia by radiological investigation (see Fig. 6). She was given 4 blood transfusions prior to transthoracic herniorrhaphy on 4 August 1952. A year later she wrote to say that she had remained perfectly well since operation.

Our other case was a child of 5½, referred by Dr. Strawbaun for surgery, in whom the cause of a severe anaemia in the absence of dyspeptic symptoms was not diagnosed elsewhere and who had received repeated transfusions. The site of haemorrhage was from a large gastric ulcer in the herniated stomach (see Fig. 7). Since repair of the hernia the child has remained perfectly well.

C. Cardiac Symptoms

In many cases a diagnosis of angina pectoris has been made on the severe retro-sternal pain referred to the jaw and down the arm which many patients harbouring a hiatus hernia experience. Although there is some excuse for this on superficial questioning the pains are rarely, if ever, brought on by exertion and the electro-

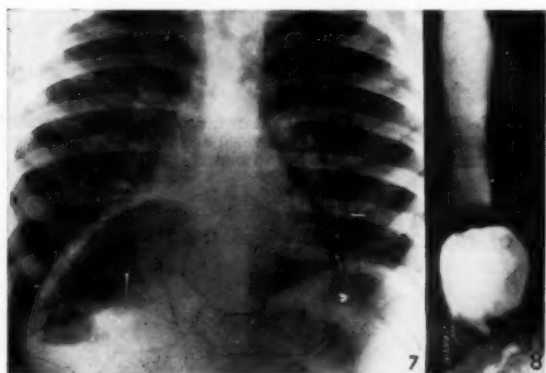


Fig. 7. This shows an oesophago-aortal hernia into the right chest in a little girl aged 5 whose symptoms were entirely due to a profound secondary hypochromic anaemia.

Fig. 8. This shows the typical herniated pouch lying above the diaphragm in the supine position or in the leaning position. Note again how the oesophagus enters the apex of the hernia and appears short.

cardiogram is almost invariably normal on effort. They are also usually relieved by moving around and sitting up. One case, however, has been described by Halonen¹⁵ of pain with a typical coronary-thrombosis electrocardiogram which reverted to normal when the pain disappeared; it was subsequently shown that the electrocardiogram was abnormal only when a hiatus hernia was present. Nuzum¹⁶ found that in 100 cases in which angina pectoris was diagnosed 25 suffered from an associated hiatus hernia; 7 of them were judged to have no coronary-artery disease and their symptoms were relieved by treatment of the hernia. This incidence of 25% he compares with an incidence of 12% in a comparable series of patients with gastro-intestinal symptoms. Adams and Lobb⁶ state that cardiac

symptoms are more commonly found in cases of what they describe as oesophago-aortal hernia.

Three of our patients had anginal pain in addition to their hiatal symptoms:

(1) A woman of 47 with an ischaemic electrocardiogram was thought to have hypertensive angina. At operation herniotomy was combined with left trans-thoracic sympathectomy. Improvement ensued, but the patient has refused right-sided sympathectomy. (2) A woman aged 48 was thought to have angina prior to the diagnosis of hiatus hernia. Her effort electrocardiogram was normal. (3) A man aged 65, who has been operated upon too recently to assess, had angina with an abnormal electrocardiogram on effort; herniorrhaphy was advised to relieve him of severe postural symptoms.

D. Respiratory Symptoms

Cough has been described as resulting from mediastinal pressure in the larger hernias. Although there is no reason why an 'oesophageal lung' should not occur in the cases complicated by stricture, we have not seen the lung abscess or suppurative pneumonitis which is so common in cases of cardiospasm.

PROGNOSIS AND DIAGNOSIS

Prognosis. In asymptomatic cases complications are unlikely, because these patients have probably few oxyntic and peptic cells in the hernia.

When symptoms are mild and pain is not severe it is possible that symptomatic treatment may prevent serious complications. Once symptoms of oesophagitis are present the threat of progressive fibrosis and stricture is very real and only reparative surgery can obviate complete obstruction and major extirpative surgery.

The **Diagnosis** is based essentially on a careful history, adequate radiology (see Fig. 8), and confirmatory oesophagoscopy. A wrong diagnosis of coronary thrombosis and angina pectoris should not be made on the history; it should be excluded by electrocardiography. Achalasia of the oesophagus, carcinoma of the cardia, peptic ulceration of the stomach and duodenum, and chronic cholecystitis, should be differentiated on clinical and radiological investigation. Hiatus hernia is often associated with chronic cholecystitis and diverticulosis and this triad has been given the eponym of 'Saint's triad'.

Heartburn and regurgitation in the recumbent position are highly suggestive of hiatus hernia, but can be closely mimicked by gastro-oesophageal regurgitation. Radiological investigation, first described in the South African literature by Muller¹⁷ in 1948, should help to differentiate these lesions. In doubt, oesophagoscopy with insertion of clips at the cardio-oesophageal junction with subsequent radiology should finalize the differentiation by demonstrating whether the cardia is supradiaphragmatic or not.

Samuel¹⁸ has described the radiological features in 5 cases of peptic oesophagitis (see Fig. 13). We do not propose to repeat his observations; suffice it to say that a barium swallow in the Trendelenburg position with the patient tilted towards the right is essential to exclude a hiatus hernia radiologically; but the only certain way of confirming early oesophagitis is by direct inspection through the oesophagoscope, which also demonstrates the patulous cardia with reflux.

In the presence of obstruction the history of long-standing regurgitant symptoms is against the diagnosis of carcinoma. Nevertheless with an obstructive lesion, especially in the middle-aged, oesophagoscopy with biopsy (and dilatation in the first instance) should immediately be performed to confirm the suspected diagnosis and to exclude a carcinoma either of the oesophagus or of the cardia.

TREATMENT

In many cases where the symptoms are mild and the patient obese and old, symptomatic medical treatment can be advised. This consists of sleeping in the semi-erect position, banthine, alkalies, light diet and weight reduction.

In all otherwise fit cases where the symptoms are severe we believe that surgery should be advised. In cases with oesophageal obstruction surgery becomes essential to maintain nutrition.

Although by some it is suggested that an interruption of the left phrenic nerve might be of value in the older type of case, we find it difficult to believe that increased laxity of the hiatus is likely to be of benefit. Nevertheless

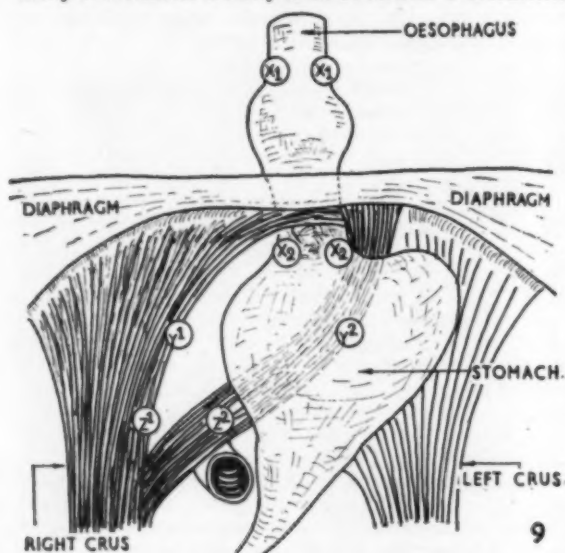


Fig. 9. This diagram illustrates the salient features of Allison's repair in a graphic manner. The widely divaricated left and right limbs of the right crus are shown. Through this enlarged hiatus the hernia has slid up into the mediastinum.

Pickhardt¹⁹ *et al.* report satisfactory results from this minor procedure in cases where thoracotomy is precluded by age or serious contra-indication.

In hiatus hernia without stricture repair of the hernia is, we believe, the only satisfactory method of cure. For long this procedure was performed through the abdomen according to the technique described by Harrington²⁰ and more recently has been revived by Tanner of London. Although we have used this route we prefer and recommend the trans-thoracic approach. We believe that the procedure described by Allison⁴ of

Leeds (see Fig. 9) is preferable to that introduced and popularized by Sweet.²¹

Through a classical left trans-thoracic 8th rib approach the lower end of the oesophagus is mobilized and the cardio-oesophageal junction is exposed. The

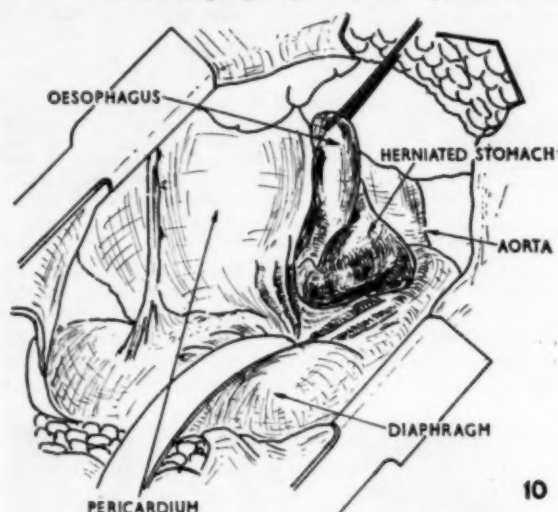


Fig. 10. This diagram shows the trans-thoracic exposure after the mediastinal pleura has been divided and the lower oesophagus and herniated stomach have been isolated.

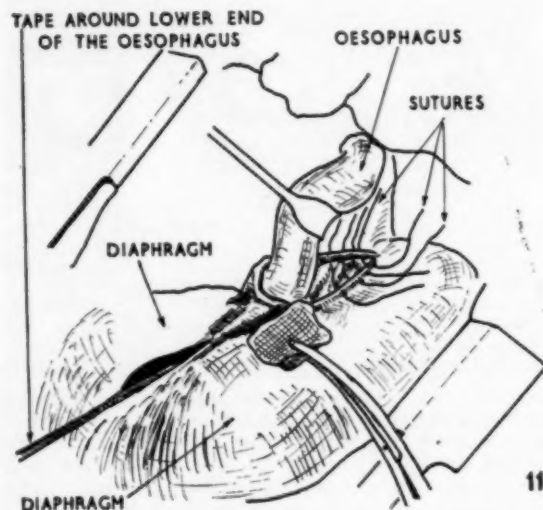


Fig. 11. This diagram shows the separate counter-incision in the diaphragm by means of which a tape tied around the cardio-oesophageal junction is used to maintain the hernia below the diaphragm whilst the right crus is approximated.

herniated stomach is then freed of its adventitial mediastinal attachment (see Fig. 10) and the crura of the diaphragm freed behind the hiatus. A separate incision is then made away from the hiatus through the dia-

phragm, and a finger inserted from the abdomen through the hiatus up along the anterior surface of the herniated fundus in the hernial sac. The sac is then divided $\frac{1}{2}$ inch below its oesophageal attachment so as to leave a fringe of phreno-oesophageal ligament intact. A tape around the cardia is now passed through the hiatus from the chest into the abdomen and by traction on this the herniated stomach is kept reduced (see Fig. 11). By working through the diaphragmatic incision the phreno-oesophageal ligament is sutured to the under surface of the diaphragm. Several thick silk sutures draw together the divaricated slips of the right crus behind the oesophagus (see Fig. 12). This is the essential

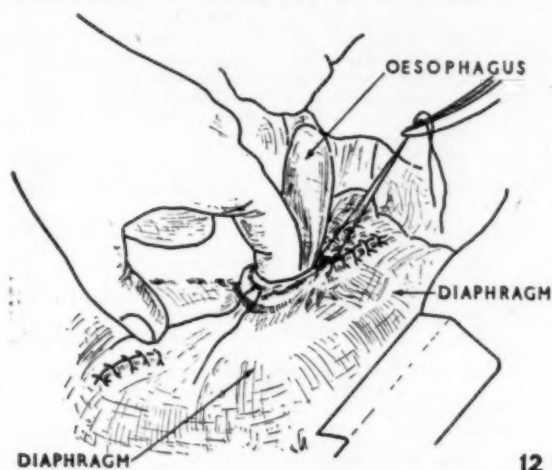


Fig. 12. This diagram shows completion of the supra-diaphragmatic part of Allison's repair. Note that the hiatus is closed posteriorly to the oesophagus and not too tightly.

part of the operation. The small incision in the diaphragm is now sutured and the incision closed in the usual manner with an under-water seal.

This operation has been performed in 12 of our cases, of which the youngest was 6 months old, with repeated severe haemorrhages and oesophagoscopic evidence of ulceration, and the oldest was 72, with severe symptoms of regurgitation.

In the presence of an organic fibrous stricture oesophagoscopy should be performed both to exclude carcinoma and to see if dilatation will be of any lasting benefit. Seven of our cases have had dilatations. Several have been so much relieved that repeated dilatations have been performed when age or other contra-indication to operation has existed.

Once the fibrous stricture has developed the only method of circumventing the obstruction is by resection of the stricture and restoration of continuity by anastomosis. It is very tempting to use the stomach and perform an oesophago-gastrostomy according to Sweet's technique. This, however, reproduces the original condition, and acid regurgitation from the stomach to oesophagus at the anastomosis soon results in further oesophagitis and stricture formation. Because of this risk we prefer an oesophago-jejunostomy, employing a

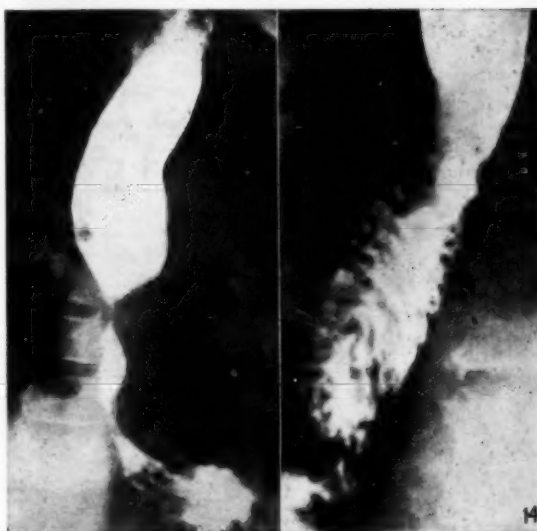


Fig. 13. This radiograph is from a 14-year-old boy who was treated by oesophageal dilatations and medically for 9 years. Despite this, oesophageal obstruction became complete and oesophago-jejunostomy was performed.

Fig. 14. This shows the oesophago-jejunal anastomosis in the posterior mediastinum.

Roux loop of jejunum as described by Allison (see Figs. 14 and 15). This procedure has been utilized in 6 cases—the youngest 14 and the oldest 71. In the boy of 14 symptoms of vomiting, haematemesis and epigastric pain had been present from the age of 3 and for 6 years before the operation he had undergone repeated oesophageal dilatations.

Operative Mortality and Morbidity

There were no deaths in the 12 cases treated by Allison's herniorrhaphy and in the 7 in whom dilatation only was used. There was 1 death in the 6 thoraco-abdominal oesophago-jejunostomies. This was caused by a perforated duodenal ulcer 20 days after operation.

There has been 1 recurrence in the 12 herniotomies. One patient developed a staphylococcal infection of the incision and a sinus which took several months to heal. Two cases developed deep-vein thrombosis of the calf, both of which were treated with anti-coagulants without developing emboli. Two cases developed transient dysphagia with sub-acute obstruction at the level of the crura on the 4th post-operative day. This was thought to be due to oedema and subsided completely after one dilatation. Of the 5 surviving oesophago-jejunostomies 2 required several dilatations for a stricture at the anastomosis site. All eat a normal diet and have remained well apart from initial weight-loss; this is not progressive and they have maintained their body weight at this lower level.

SUMMARY

The aetiology, anatomy, clinical features and complications of hiatus hernia are described. A plea is made for



Fig. 15. This shows the Roux loop of small intestine passing up through the oesophageal hiatus into the mediastinum.

a more militant attitude in treatment in the symptomatic case. The surgery recommended is illustrated by a review of 25 cases.

We should like to express our appreciation to Professor Underwood, Head of the Department of Surgery at the University of the Witwatersrand. To the anaesthetists, Drs. C. Frost, C. Jooste, J. Rosenberg and F. W. Roberts, to Dr. M. Fainsinger who was responsible for most of the radiological investigations, to the Blood Transfusion Services, to the nursing and theatre staff of the Lady Dudley and Florence Nightingale Nursing Homes, and especially to our two 'specials', Sister du Preez and Sister St. Clair we owe a special debt of gratitude for, without their interest and able assistance, this series would not have been possible.

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'N STUDIE VAN 26 OPEENVOLGENDE GEVALLE VAN TIFOÏED-KOORS DEUR BLOEDKULTUUR GEDIAGNOSEER

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Die doel van hierdie studie is om die uitwerking van chloramfenikol-toediening op gevalle van tifoïed-koors te bepaal, veral met betrekking tot die serologiese reaksies.

Materiaal. Die reeks gevalle het bestaan uit 24 volwasse Bantoes en 2 volwasse Asiate in die Algemene Hospitaal te Pretoria gedurende Januarie 1954 opgeneem. Agtien van hierdie pasiënte was manlik. Hulle leeftye het gewissel van 18 tot 50 jaar. Dit is onwaarskynlik dat enigeen van hierdie pasiënte voorheen buiktifusentstof ontvang het.

METODIEK

- (1) 5 ml. bloed is in 'n bloedkultuurbottel ingespuut wat 175 ml. van 'n osgalboullion bevat het.

* Hoof: Prof. Dr. J. Barnetson.

† Hoof: Prof. Dr. H. W. Snyman.

Die volume boullion is opsetlik groot gemaak om moontlike antiliggame te verdun.

- (2) Urine- en stoelgangmonsters is geneem; laasgenoemde soms met behulp van 'n klisma.
- (3) Bloed is vir agglutinasie-reaksies verkry.

Daarna is onmiddellik met chloramfenikol-toediening as volg begin:

'n Standaard-dosering is op die groep toegepas. By almal was die dosering dieselfde, nl. 'n begin-dosis van 1 gm. chloramfenikol met daarna ses-uurlikse toediening van 500 mg. totdat die koors vir twee dae normaal was. Pasiënte wat te siek was om te sluk het die chloramfenikol deur 'n maagbuis ontvang. Waar nodig was, is 'n intraveneuse infuus van glukose aangelê.

Bloedkulture is elke dag aangelê totdat 5 opeenvolgende kulture negatief was. Van negatiewe bloed-



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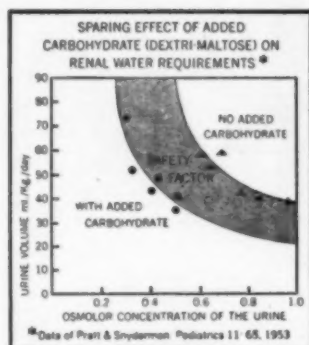
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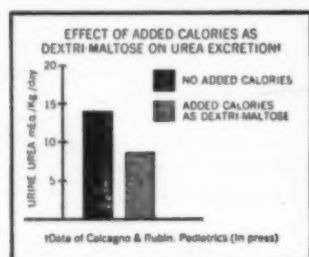
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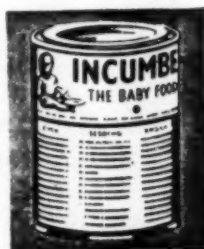
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kulture is subkulture vir nooit langer dan 4 dae gemaak nie.

Urine- en stoelgangmonsters is daaglikse ondersoek en agglutinin-titers ook daaglikse bepaal gedurende die pasiënt se verblyf in die hospitaal. Weens obstipasie was dit soms moeilik om ontlasting te kry. Daar was egter nooit 'n onderbreking van meer dan 3 dae in hierdie ondersoek nie.

Na 12 uur by 37° C was die eerste subkultuur van die galboullion op McConkey-agar gedoen. Na 'n verdere 8-12 uur was verdagte kolonies direk op 'n plaatjie geagglutineer met *S. typhi* O-, H-, en Vi-antiseria afkomstig van die Standard-laboratorium, Colindale, Londen. Biochemiese reaksies van verdagte kolonies is ook nagegaan, maar positiewe uitslae is alleen op grond van agglutinasie-reaksies vasgestel.

Die stolsel afkomstig van die eerste agglutinasie-monster is fyngemaak en ook in dieselfde hoeveelheid galboullion geënt. Daarna is dit net soos die bloedkultuur behandel.

Stoelgange en gesentrifugeerde monsters urine is direk op Bacto-McConkey en SS-agar geënt. 'n Ge-deelte is ook in Bacto-Selenite-Boullion gedompel, oornag laat broei en weer op SS-agar geënt. 'n Hele aantal verdagte kolonies is in Singer¹ se medium geënt. Organismes wat ná inkubasie nie laktose gefermenteer of ureum gehidroliseer het nie, is dan deur suiker-reaksies en bevestigende agglutinasie-reaksies gevoer.

Gevoeligheidstoetse op geïsoleerde organismes is volgens die metode van May en Morley² teen 'n konsentrasie van 10 µg. chloramfenikol/ml gedoen.

Titrasie van H- en O-agglutiniene is gedoen deur 'n verdubbelende reeks serum-verdunnings van beide 1 : 2 en 1 : 5 te maak en 'n gelyke hoeveelheid Oxford Standard agglutinerende suspensie by te voeg. Die laagste finale verdunning van die serum was 1 : 16 en die totale volume was 1 ml. Beide H- en O-buise is dan in 'n waterbad by 37° C vir 2 uur geplaas. Na nog 22 uur op die bank is die titer gelees. Geen poging is aangewend om standaard-agglutinasie deur middel van Dreyer³ se reduksiefaktore te lees nie, en die titer van 'n serum is eenvoudig beskou as die hoogste verdunning wat sigbare agglutinasie by 'n 10x-vergroting gegee het.

Die teenwoordigheid van menslike globuliene op die antigene is deur die antiglobulinemete van Stewart en McKeever⁴ bepaal. Vi-agglutinasie is met Standard Oxford-suspensies bepaal volgens die metode van Taylor⁵ en ook deur die hemagglutinasie-metode van Spaun.⁶ Die verdunningsserum was 'n verdubbelende reeks vanaf 1/1-25. Die laagste verdunning van serum was 1/2-5 en die volume was 1 ml. Homologiese H-agglutinerende suspensies van geïsoleerde *S. typhi*-organismes is volgens die metode van Mackie en McCartney⁷ gemaak.

Op 'n paar uitsonderings na was meeste van die pasiënte vir omtrent een maand in die hospitaal en kon die bostaande ondersoeke soos beskryf, gedoen word.

RESULTATE EN BESPREKING

16 Gevalle is binne 24 uur en 10 gevalle binne 48 uur, na ontvangs van die monsters, gediagnoseer. Geen

bloedkultuurmonster het positief geword nie nadat dit vir meer dan 48 uur negatief was. Batty Shaw en Mackay⁸ se bevindings van positiewe resultate ná inkubasie vir 11 dae kom waarskynlik baie selde voor en is miskien te wyte aan die klein hoeveelheid (15 ml.) boullion wat gebruik is. Kultuur van die bloedstolsel was in 21 gevalle ook positief, maar gewoonlik eers een of twee dae na die resultaat van die direkte bloedkultuur bekend was. Die veelbelowende manier van stolsel-kweking van Thomas *et al.*⁹ is ongelukkig nie probeer nie.

Al die organismes was in die V-W-fase soos bepaal met *S. typhi* O- en Vi-antiseria, almal was beweeglik en almal het geagglutineer met *S. typhi* H-antiseria.

Die gevoeligheid van alle organismes in die tydperk geïsoleer is vir chloramfenikol bepaal met dieselfde uniforme resultate, naamlik dat almal oorspronklik gevoelig vir 10 µg./ml. chloramfenikol was. Daardie gevoeligheid het behoue gebly ten spyte van wisselende periodes van terapie, 'n verskynsel wat al deur verskeie werkers insluitende Rankin en Grimble,¹⁰ Cook en Marmion,¹¹ Good en Mackenzie¹² en Woodward *et al.*¹³ opgemerk is.

Die pasiënte is oor die algemeen opgeneem in 'n ernstige siek toestand met hoë koors en soms in delirium. Alleen by een geval was die temperatuur normaal, by die res het dit gewissel tussen 100° en 104.6° F. Die meeste pasiënte (21 uit 26) het oor swaar hoofpyn gekla; sommige oor algemene lyfpyn en buikpyn. Geen enkele pasiënt was sonder pynklagtes nie. Agt pasiënte het oor hoes gekla en het by ondersoek long-afwykings getoon.

Slegs 5 pasiënte het las van diarree en 8 het klages van obstipasie gehad.

Vyftien het urineklagtes, nl. brandende urine en frekwente urinering met albuminurie, en enkele bloed en etterselle in die urine gehad.

By verder ondersoek is 'n droë beslane tong in 16 gevalle gevind. Die pols was by opname oor die algemeen vinnig. By 14 gevalle was dit 100 of meer per minuut en die laagste telling was 82 per minuut. Alleen in 6 gevalle is 'n miltvergroting vasgestel.

Die besinkingsnelheid was oor die algemeen hoog en het meestal gewissel tussen 30 en 110 mm. 1ste uur (Westergren). Alleen in 3 gevalle was dit normaal. Die mees konstante bloedaafwyking was 'n leukopenie met 'n ligte anemie. Alleen in 6 gevalle was daar meer dan 7,000 leukosiete per c.mm. met 9,900 as hoogste waarde. Limfosiete het gewissel van 22 tot 52%. In 8 gevalle was eosinofiele-selle van 1 tot 4% aanwesig. Die bloeddruk was oor die algemeen laag. Die maksimale druk was net in 6 gevalle hoër dan 110 mm. Hg.

Gemiddelde is 23.5 g. chloramfenikol per pasiënt toegedien. Die koors was normaal tussen 2 en 10 dae (gemiddeld 6 dae) ná behandeling ingestel is.

Pasiënte kon in 2 groepe gedeel word volgens die duur van die siekte voordat spesifieke terapie begin is: Groep I bestaan uit 6 pasiënte wat 5 dae of minder (gemiddeld 4 dae) siek was en groep II bestaan uit 20 pasiënte wat 7 of meer dae (gemiddeld 14 dae) siek was voor terapie begin is.

By al 6 pasiënte van groep I en by 10 pasiënte van

groep II was alleen die bloedkulture positief. By 12 van hierdie 16 pasiënte was die bloed binne ongeveer 18 uur na behandeling kiemvry. By die orige 4 was hierdie tydperk ongeveer 48 uur. Woodward *et al.*¹⁴ wat bloedkulture elke 2 uur gedoen het, het opgemerk dat in meeste gevalle van buiktifus die bloed na 2 uur se behandeling steriel is, maar dat 'n paar gevalle na 'n verloop van 48 uur nog positief was. Op een uitsondering na kon *S. typhi* nooit weer uit die bloedstroom of uit enige uitskeiding van hierdie 16 pasiënte gekweek word nie. Die een uitsondering was 'n pasiënt van groep I wat 'n terugval gehad het en waar *S. typhi* weer in die bloedstroom aanwesig was.

Drie van die oorblywende 10 gevalle het 'n positiewe kweek uit die urine met opname gehad. Hier weer was beide die bloed en urine die volgende dag vry van organismes. Hierdie 3 pasiënte het nooit *S. typhi* in die stoelgange getoon nie, maar 2 van hulle het na 14 en 10 dae se behandeling onderskeidelik weer *S. typhi* in die urine uitgeskei. Die een kon weens vertrek uit die hospitaal nie verder opgevolg word nie, maar die ander een se urine was weer die volgende dag negatief en het verder negatief gebly. Hierdie 2 gevalle kan nie as terugvalle beskou word nie aangesien die temperatuur normaal was en die pasiënte geen siektesimptome gehad het nie. Die feit dat hulle nog op chloramfenikol-behandeling was moet dan as 'n waarskuwing dien dat niestetaande spesifieke behandeling daar nog so iets as tydelike draers is.

Die oorblywende 7 pasiënte het *S. typhi* in hulle stoelgange by opname getoon, en hoewel die bloed binne 18 tot 48 uur kiemvry was het die stoelgange vir 'n paar dae positief gebly, by 1 van die pasiënte selfs vir 10 dae nadat met behandeling begin is. Die enigste sterfgeval was in hierdie groep van 7 pasiënte. Die feit dat stoelgange gewoonlik nie dadelik van *S. typhi* bevry is nie, is welbekend en is onder andere deur Smadel *et al.*¹⁵ Woodward *et al.*¹⁶ en Good en Mackenzie¹² beklemtoon. Een van hierdie pasiënte het na 14 dae se behandeling *S. typhi* begin uitskei in die urine wat 5 keer in die volgende 14 dae weer positief was. Vir bogemelde redes moet hierdie pasiënt ook as 'n herstellende draer beskou word. Die urine was negatief vir 'n week voor die pasiënt ontslaan is.

Daar is min voorbeelde in die literatuur van daaglikse of selfs veelvoudige agglutiniën-titers in gevalle van buiktifus wat nie voorheen entstof gehad het nie. Dreyer¹⁶ se gevalle was in 1915 gedoen toe net formalien-suspensies gebruik was en derhalwe net H-agglutiniene bepaal. Beide van hulle het opgemerk dat titers geweldig van dag na dag varieer. Ons kan hierdie bewering bevestig met sera wat op verskillende dae geneem is maar op een dag onder dieselfde omstandighede bepaal is. Die krommes wat hieronder verskyn dien alleen om die algemene trant van agglutinasie-reaksies aan te toon.

H-agglutiniene was nooit teenwoordig in die laagste verdunning (1 : 16) in die sera van al 6 groep I-pasiënte nie en was net in 9 van die 20 pasiënte van groep II aanwesig. Die negatiewe sera is herhaalde male vir onvolledige antiliggame getoets (laagste verdunning 1 : 16) met beide die standaard, en homologiese H-suspensies, met uniforme-negatiewe resultate. Die

feit dat sommige pasiënte nooit H-agglutiniene ontwikkel nie, alhoewel hulle met beweeglike organismes besmet is, is goedbekend en is veral deur Pijper^{18, 19} beklemtoon. Hiermee is nou bewys dat hierdie antiliggame ook nie in 'n onvolledige vorm in hierdie pasiënte aanwesig is nie. In die 9 pasiënte van groep II wat wel H-agglutiniene gevorm het, was baie hoë titers aangeteken. Die maksimum was omstreeks die 20ste dag van siekte bereik en het toe baie stadig begin daal,

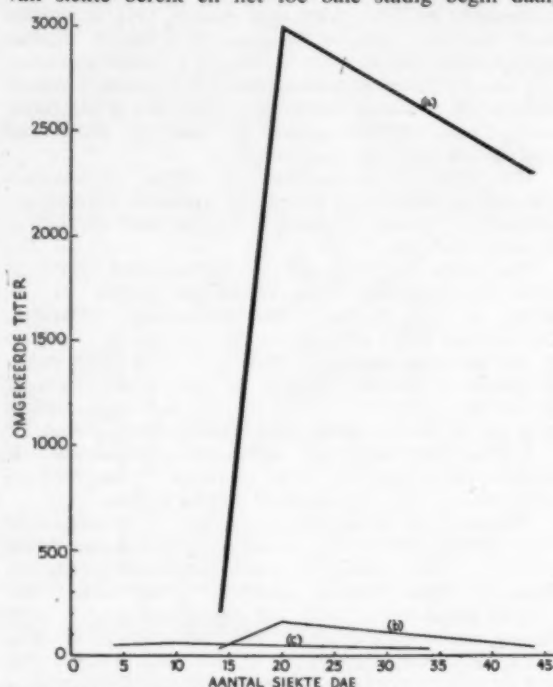


Fig. 1 (a). O en H titers van groep II-pasiënte.

Fig. 1 (b). Vi titers van groep II-pasiënte.

Fig. 1 (c). O titers van groep I-pasiënte.

min of meer soos die gevalle van Dreyer.¹⁶ 'n Tipiese kromme is in Fig. 1 (a) getoon en dit is opmerklik dat dikwels, alhoewel geen organismes meer geïsoleer kon word nie, die titer tenminste vir nog 7 dae geleidelik gestyg het.

Al die pasiënte behalwe 1 in groep II wat aan longtuberkulose gely en glad nie gereageer het nie, het O-agglutiniene gevorm. Daar was 'n verskil in die reaksies van die 2 groepe pasiënte te bespeur. Groep I het lae O-titers gehad wat ná die begin van spesifieke terapie baie min of glad nie gestyg het nie en gou begin daal het soos in Fig. 1 (c) aangedui. Die antiglobulien-toets is ook hier toegepas sonder enige merkwaardige veranderinge in die O-titer. Groep II-pasiënte se O-titers het op een na 'n kromme getoon wat ongeveer met hulle H-agglutiniene gedurende die periode van observasie ooreenstem. Die titer het geleidelik gestyg om 'n maksimum rondom die 20ste dag te bereik en dan baie stadig begin daal. Fig. 1 (a). Die een uitsondering was die pasiënt wat aan longtuberkulose gely het en wat geen agglutiniene gedurende die periode van

observasie getoon het nie. Horgan²⁰ beskryf 2 sulke pasiënte uit 'n reeks van 17 wat nie agglutiniene ontwikkel het nie.

Die Vi-hemagglutinasie-toets het gereeld effens hoër titers gegee as die Vi-agglutiniene-toets, maar aangesien die twee metodes altyd dieselfde trant aangedui het word hulle saam behandel. Hier miskien was die grootste verskil tussen die 2 groepe pasiënte te bespeur. Die pasiënte van groep I het nooit Vi-agglutiniene getoon nie (< 1 : 2.5). Aangesien hierdie pasiënte almal gou herstel het met geen Vi- of H- en lae O-titers, wat ook gou verminder het, wil dit voorkom of Bhatnagar²¹ se prognostiese reëls aangaande die ontwikkeling van agglutiniene miskien nou, met vroeg toegepaste moderne terapie, gewysig moet word. Woodward *et al.*¹⁴ kon geen verband tussen O-agglutiniene en terugval vind nie en Horgan²² kon geen prognostiese waarde aan Vi-titers heg nie. Die enigste terugval in ons reeks het egter voorgekom met 'n groep I-pasiënt m.a.w. een waar geen Vi- en lae O-titers voorgekom het nie. Met sy tweede opname het hierdie pasiënt se agglutiniene soos dié van groep II gereageer.

Met pasiënte in groep II het die krommes baie min van mekaar verskil. Met die een uitsondering van die tuberkulose pasiënt wat geen antiliggame gevorm het nie, was Vi-titers van 1/80-1/160 altyd tussen die 14de en 21ste dag van siekte volgens albei toetse bereik. Die titer het baie geleidelik gedaal en meeste pasiënte is ontslaan met 'n Vi-titer in die omgewing van 1/40 na omtrent 'n maand in die hospitaal. Fig. 1 (b). Hierdie bevindings is teenstrydig met die van Bhatnagar¹⁷ wat beweer dat 'n maand na die begin van 'n aanval die Vi-titer zero of baie laag is en dat gevalle soos dié van ons as tydelike draers beskou moet word. Dit is onwaarskynlik dat hierdie pasiënte almal selfs tydelike draers sou gewees het, maar hierdie vraag kan ongelukkig nie beantwoord word nie omdat die pasiënte na ontslag nie meer bereikbaar was nie. Ook klop die bevindings nie met dié van Felix *et al.*²³ nie, wat Vi-agglutiniene in aansienlike hoeveelhede maar in 8 uit 100 tifoed-pasiënte, en 5 uit 17 herstellende pasiënte kon demonstreer. Gundel en Abdoosh²⁴ en Horgan²² meld ook hoe seldsaam Vi-agglutiniene in buiktifus-pasiënte te voorskyn kom. Dit is ook gevind dat die O- en Vi-titers van die persone wat later weer organismes in die urine begin uitskei het, nie verskil het van dié wat net op die eerste dag van behandeling (\pm die 14de dag van siekte) organismes in hul bloedstroom gehad het nie.

Agglutinasie-toetse is nie noodwendig 'n noukeurige weergawe van *in vivo*-toestande nie en definitiewe gevolgtrekkings van hierdie klein reeks gevalle kan nie gemaak word nie.

Daar is baie gevalle van tifoed-koors, vóór die dae van spesifieke terapie beskryf, wat op presies dieselfde manier soos ons groep I pasiënte gereageer het. Nietemin is die kontras tussen die twee groepe opvallend in so verre dat al 6 gevalle wat vroeg behandel is geen of lae agglutiniene-titers ontwikkel het wat dan ook gou gedaal het. By pasiënte wat meer dan 'n week siek was voordat met spesifieke terapie begin is het chloramfenikol skynbaar geen uitwerking op die vorming van agglutiniene nie want in baie gevalle, alhoewel geen

S. typhi meer teenwoordig is nie, styg die titer tot omtrent die 20ste dag voor dat dit baie stadig weer begin daal.

Dit wil voorkom asof 'n antigene-prikkel van 'n week tot 14 dae voldoende is om die gewone antiliggamereaksie uit te lok maar dat 'n stimulus van net 'n paar dae 'n baie gebrekkige antiliggamereaksie verwek. Good en Mackenzie¹² kon geen derglike korrelasie in hulle klein reeks gevalle merk nie. Bruni *et al.*²⁵ en Vorlaender *et al.*²⁶ lewer bevestigende eksperimentele resultate met buiktifusbesmette konyne wat met chloramfenikol behandel is en laer agglutiniene-titers ontwikkel dan kontrole-diere. Daikons en Weinstein²⁷ en andere beweer dat die vroeë verwydering, met penisillien behandelings van die antigene-prikkel by pasiënte met streptokokke faringitis, die rede is waarom hierdie pasiënte geen of swak antiliggame vorm. Stevens²⁸ reken dat antibiotika soos p.a.s. en oksitetrasiklien nie net die antigeen gou verwyder nie maar ook 'n direkte remmende uitwerking op die antiliggam-vormende sisteem van proefdiere het. Hiervoor is daar geen bewys in hierdie ondersoek nie en alhoewel De en Bhattacharya²⁹ ook beweer dat chloramfenikol 'n primêr remmende uitwerking op die antiliggam-vormende apparaat van konyne het, kan hulle gevolgtrekkings nie statistiese analise deurstaan nie. Dit is opmerklik dat die enigste terugval in hierdie reeks gebeur het met een van die groep I pasiënte wat baie lae titers ontwikkel het en ons wil aan die hand doen dat meer gevalle, wat vroeë behandeling ontvang het, bestudeer word om te besluit of hulle sal baat deur die opwekking van kunsmatige aktiewe immuniteit deur middel van entstof-toediening.

OPSOMMING

Ses-en-twintig opeenvolgende gevalle van tifoed-koors is deur middel van bloedkulture gediagnoseer. Stoelgang- en urine-monsters is daaglik ondersoek en agglutiniene-titers daaglik bepaal. Bloedkulture is ook daaglik aangelê totdat 5 opeenvolgende monsters kiemvry was.

Behandeling is ingestel nadat die eerste monsters geneem is.

Daar was heelwat wisseling in kliniese verskynsels. Klagtes oor hoofpyn, buikpyn of algemene lyfpyn het op die voorgrond gestaan. Met enkele uitsonderings was die bloedbesinking baie hoog. By alle gevalle was 'n leukopenie aanwesig en by 8 gevalle was eosinofiele selle in die perifere bloed aanwesig.

Die bloedkweking het tussen 24 en 48 uur na die aanvang van behandeling altyd kiemvry geword. By enkele gevalle was urine- en stoelgangmonsters na een week nog positief.

Al die geïsoleerde organismes was ten alle tye gevoelig vir 10 μ g. chloramfenikol/ml.

Groep I (6 pasiënte) was gemiddeld 4 dae en groep II (20 pasiënte) gemiddeld 14 dae siek voor opname.

Geen pasiënte van groep I en slegs 9 van groep II het H-agglutiniene ontwikkel, alhoewel almal met bekwame organismes besmet was. H-agglutiniene is ook met homologiese suspensies en deur middel van 'n antiglobulienmetode bepaal. Daar is gevind dat hierdie antiliggame ook nie in onvolledige vorm in hierdie pasiënte aanwesig was nie.

Gevalle in groep I het lae O-titers wat gou begin daal het, en geen Vi-titers ontwikkel nie.

Gevalle in groep II het hoë titers van albei ontwikkel. In hierdie groep het O-agglutiniene tot ongeveer die 20ste dag van siekte toegeneem en het daarna stadig begin daal. Die Vi-agglutiniene het stadig gedaal en meeste pasiënte is ontslaan met Vi-titers van ongeveer 1 : 40 met geen *S. typhi* organismes in hul uitskeidings aanwesig nie.

Alhoewel geen definitiewe afleidings van hierdie klein reeks gevalle gemaak kan word nie wil dit voorkom asof vroeë spesifieke behandeling die ontwikkeling van *in vitro* bepaalbare immuniteit mag strem. Daar word aan die hand gedoen dat sulke gevalle tergelykertyd tifoïed-entstof toediening moet ontvang. Die enigste terugval in hierdie reeks was met 'n geval wat behandeling vroeg ontvang het.

SUMMARY

Twenty-six consecutive cases of typhoid fever were diagnosed by means of blood cultures. Stools and urines were examined daily and daily determinations of agglutinin titres were done. Blood cultures were also examined daily until 5 consecutive specimens were sterile.

Treatment was begun after the first specimens had been taken.

There were considerable variations in clinical manifestations. Complaints of headache, abdominal pain and generalised body pain were prominent. With few exceptions the sedimentation rate was high. A leucopenia was present in all cases and in 8 there were circulating eosinophils present.

Blood cultures were sterile in all cases from 24 to 48 hours after commencement of therapy. In a few cases urine and stool cultures were still positive a week after therapy was instituted.

All the organisms isolated remained sensitive to 10 µg chloramphenicol/ml.

Six patients were ill for 5 days or less before admission (average 4 days; group I) and 20 for 7 days or more (average 14 days; group II).

None of the patients in group I and only 9 in group II developed H-agglutinins, although all were infected with motile organisms. H-agglutinins were also determined with homologous suspensions and the possibility of incomplete forms were investigated by means of an antiglobulin technique. In none of these cases were incomplete antibodies detected.

Cases in group I developed no Vi antibodies and only low O-titres, which quickly declined.

Cases in group II developed high titres of both these antibodies. In this group the O-agglutinins steadily increased to about the 20th day and then diminished gradually.

The Vi titres declined gradually and most patients were discharged with Vi titres in the region of 1 : 40 with no *S. typhi* organisms present in their excreta.

Although definite conclusions cannot be drawn from this small series, it appears that early specific treatment may depress the development of *in vitro* determinable immunity and it is suggested that a typhoid vaccine be concurrently administered to such patients. The only relapse in this series occurred in a patient who had received early treatment.

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ABSTRACT : UITTREKSEL

Hinton, J. W. (1954): *The Mechanism of Action of Ergotamine in Hyperthyroidism: Surgery*, **35**, 491.

The mechanism of action by which ergotamine prevents thyroid storms is based on an interrelationship of adrenalin and thyroxin.

The mechanism of action of the ergotamine is its occupation of the pattern cell receptor with the thyroxin, blocking the adrenalin, which thereby loses its potentiating effect on the thyroxin. If ergotamine is given at the time of operation, it has immediate

clinical effect in reducing the pulse rate of the patient anywhere from 30 to 50 beats within a 5-minute period.

Ergotamine has been used more than 150 times on patients with hyperthyroidism without any ill effects. Occasionally it is given for 2-3 days preoperatively in the dosage of 1 mg. 3 times daily. Just before anaesthesia is begun, it can be used intravenously giving ½ mg. and repeating this dose once, twice, or three times during the operative procedure if necessary. The clinical effects are most dramatic, and in many instances this has been a life-saving measure in a critically ill patient.

AGRICULTURAL FOUNDATIONS OF NUTRITION

X. VEGETABLES

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The production of vegetables is one of the least organized of our agricultural enterprises; and the amount of quantitative information available is therefore always limited, often incomplete and seldom very accurate.

For 2 centuries vegetables were grown in South Africa in the kitchen garden almost exclusively for home consumption, but by 1900 market gardening had begun to flourish near the larger towns. As transport facilities developed distant producers entered the picture, until today a far more constant and varied supply of vegetables has become available to the town dweller, whilst production has at the same time become progressively more specialized and localized.

Production. Table I shows that the area planted to vegetables for sale has doubled between 1937 and 1950. The greatest increase for the types recorded was for onions, the least for sweet potatoes. Examined on a Provincial basis, we find the greatest increase in the area planted in the Transvaal. The few figures available for the amount produced per annum of certain types of vegetable are given in Table II (i).

Yields per morgen. Yields are recorded in a few cases and will be found in Table II (i). It is of interest to consider what is known about the productivity of land planted with this type of food. In 1941 *Nature* reported a study on 98 English Allotments which indicated that the weight of a wide variety of vegetables (but excluding potatoes) amounted to about 17 tons per morgen during

(ii) YIELDS THAT CAN BE EXPECTED FOR SOME COMMON VEGETABLES WHEN EFFICIENTLY GROWN UNDER IRRIGATION

(Division of Horticulture)

							Tons per morgen
Beetroot	..	..	..	..	..	..	20 (a)
Cabbage	..	..	..	..	..	..	15
Carrots	..	..	..	..	..	..	20
Cauliflower	..	..	..	..	..	..	12
Celery	..	..	..	..	..	..	25
Green beans, bush	..	..	..	..	..	..	8 (a)
Green beans, runner	..	..	..	..	..	..	12 (a)
Lettuce	..	..	..	..	..	..	12
Onions	..	..	..	..	..	..	24
Parsnips	..	..	..	..	..	..	15
Peas	..	..	..	..	..	..	6-8
Pumpkins	..	..	..	..	..	..	20 (a)
Squashes	..	..	..	..	..	..	30
Sweet Potatoes	..	..	..	..	..	..	18
Tomatoes	..	..	..	..	..	..	25-30
Turnips	..	..	..	..	..	..	20

(a) Yields would be lower when grown during winter in the Transvaal Lowveld.

TABLE I. MORGENAGE PLANTED TO VEGETABLES IN 1937 AND 1950
(Agricultural Census Reports)

	Potatoes	Sweet Potatoes	Onions	Dried Peas	Dried Beans	Total	All other Vegetables	Grand Total
1936-1937	41,043	9,116	1,844	4,174	35,653	91,830	22,742	114,572
1949-1950	65,437	11,480	5,138	8,292	88,043	178,390	47,038	225,428
Percentage increase in 13 years	59	26	179	99	147	94	107	97

the year. A somewhat similar study made at about the same time in Natal gave a figure of 14.8 tons. Taking a mean of 16 tons and

TABLE II

(i) TOTAL PRODUCTION AND AVERAGE YIELD PER MORGEN FOR CERTAIN VEGETABLES DURING 1949-50
(Agricultural Census)

	Area Planted or Reaped	Production (million bags)	Average Yield per morgen (bags)
Beans, dried	83,377 (R)	0.355 (200 lb.)	8.5
Onions	11,480 (P)	0.619 (120 lb.)	144.5
Peas, dried	6,599 (R)	0.046 (200 lb.)	7.1
Potatoes	62,123 (R)	3.496 (150 lb.)	84.3
Sweet Potatoes	11,480 (R)	0.492 (120 lb.)	51.5

allowing the typical ration of 5 ounces of mixed vegetables per head daily, this indicates that one morgen would supply the needs of 280 persons per annum. On this basis the 5 million persons now living in South African urban areas could be supplied by an area of only 60 square miles, which corresponds to that owned by the Municipalities of George or Colesberg. Moreover, these yields were obtained by ordinary methods of cultivation. If grown under irrigation the average weight obtainable per morgen could probably be doubled (Table II (ii)) and hence the area required could be halved, which brings home to us how small an area of suitable land would suffice to produce this valuable type of protective food for so many persons.

Consumption. The only data available for consumption are the sales on the 8 principal municipal markets for 8 kinds of vegetables. Unfortunately these exclude such common types as beetroot, carrots, lettuce, marrows, pumpkins and spinach. However, they serve as useful indices, so that Table III and Fig. 1 deserve some study. Judged on a weight-basis, potatoes are by far the most important purchase, as would be expected, followed by tomatoes;

TABLE III. SALE OF 8 VEGETABLES (MILLION LB. WEIGHT) ON THE 8 PRINCIPAL MUNICIPAL MARKETS
(Division of Economics and Markets)

	Potatoes	Onions	Sweet Potatoes	Tomatoes	Green Beans	Green Peas	Cabbage	Cauliflower	Total Sales
1937-38	170.4 (55)	27.6 (9)	15.8 (5)	40.2 (13)	12.2 (4)	11.5 (4)	26.0 (8)	4.3 (1)	307.9
1949-50	267.4 (48)	48.9 (9)	28.8 (5)	96.1 (17)	17.7 (3)	18.8 (3)	62.9 (11)	12.7 (2)	553.3
Percentage increase over 12 years	57	77	82	139	45	63	142	195	79.7

(Figures in brackets are the percentages of all vegetables sold during the year)

that onions are so much more popular than the remaining vegetables is a tribute to the importance of flavour at mealtimes, a fact brought forcibly to the attention of the vegetable planners in Britain during the last war.

Such information excludes figures concerning the direct sales to consumers, as well as the not inconsiderable quantities produced for home consumption on farms or in home gardens.

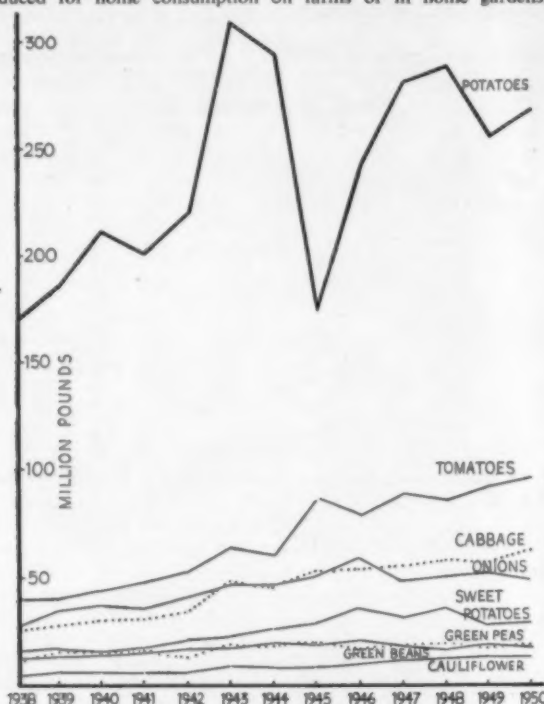


Fig. 1. Weight of 8 vegetables sold annually on the 8 main municipal markets, 1938-1950 (Division of Economics and Markets).

However, it must be remembered that some at least of the markets are also distributing centres for the smaller towns and villages.

There are very few dietary studies available from which to gauge the vegetable consumption per head at different income levels. This is particularly problematical for our non-European population. Hence it is of interest to note that Anning's survey of Benoni in 1939 (based on sales records) gave a daily consumption for all types of 11.3 for Europeans and 7.4 for non-Europeans (mostly Natives), whilst a more recent dietary survey by Du Toit¹ at Payneville Location, Springs, revealed the following daily consumption of vegetables per head for 100 non-European families (573 persons, mostly Natives):

	Ounces per day
Potatoes	4.60
Other vegetables including pumpkin, cabbage, tomatoes, onions, beans dried and green, sweet potatoes, carrots and beetroot ..	3.27
Total	7.87

If the above is at all typical of the urban non-European attitude towards vegetables it suggests that a very large potential market may await development.

Those interested in the vexed question of the transport and marketing of these perishable products (and including fruit) will find much factual information on many aspects in a painstaking study by Fischer (1950).² By counting the rail consignment receipts,

he established that during 1947-48 over 95% of all vegetables consigned to Johannesburg, Cape Town, Pretoria and Bloemfontein were sold on the municipal markets; the exceptions were potatoes (11%), onions (9%) and tomatoes (6%), but pumpkins and squashes were included. Readers may also be surprised to learn that the producer's share of the wholesale price received for the 10 vegetables studied at the four municipal markets mentioned above averaged 76, 71, 78 and 62% over the whole year. Fischer also determined the average rail distance travelled by vegetables before reaching these markets: for onions reaching Johannesburg it was 843 miles, whilst most other types travelled from 126 to 326 miles. At Cape Town over 90 per cent. of the tomatoes sold had travelled the incredible distance of 1,312 miles, whilst for 5 other types the distance varied between 467 and 802 miles. Taking green peas as one of the most perishable of the kinds studied, he found:

Municipal Market	Percentage of total annual sales	Weighted average distance travelled
Johannesburg	76	210
Cape Town	77	467
Pretoria	85	169
Bloemfontein	80	479

Taken in conjunction with our climatic conditions such figures throw a somewhat lurid light on the transport aspect of our food problems, for the problem is similar for fruit.

Canning. Tomatoes, green peas, beans, sweetcorn, carrots and beetroot are now being canned on an extensive scale, sometimes in factories that adjoin the fields where they are grown. Recent figures are not available but by 1950 the tonnage of tomatoes used for this purpose alone amounted to almost 30,000. Rapid freezing and the preparation of vegetable juices are more recent developments.

POTATOES

Potatoes are produced in larger quantities in South Africa than any other vegetable; they are also a most valuable food; if they

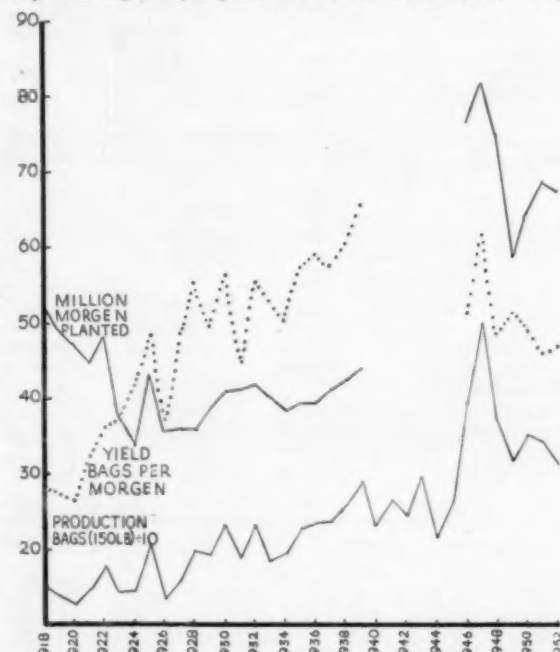


Fig. 2. Potatoes: Morgenage planted, yield per morgen and total production by Europeans, 1918-1952 (after Van de Wall and Potato Board Reports).

TABLE IV. POTATO PRODUCTION IN THE UNION 1951-52

(i) Production by Provinces (Agricultural Census)

	Morgen planted	% of Total	Production in bags	% of Total	Average yield per morgen
Transvaal	34,476	51.4	1,860,306	59.8	53.9
Cape	14,372	21.4	590,719	19.0	41.1
O.F.S.	14,416	21.5	493,325	15.8	34.2
Natal	3,823	5.7	171,291	5.4	44.8
	67,087	100.0	3,115,641	100.0	46.4

(ii) Survey of 'Recognized Potato Producers', 1951-1952 (Potato Board)

	Number of Producers studied	Morgen planted	Production in bags	Average yield per morgen (bags)
Transvaal:				
Highveld	130	12,584	1,319,100	104.8
Lowveld	75	1,088	132,405	121.7
Middleveld	54	392	40,510	103.3
O.F.S.	65	1,894	190,490	100.5
	324	15,958	1,682,505	105.4

Note: From these 2 tables we see that during 1951-52 more than half of the crop was grown by 324 producers on about a quarter of the area planted to potatoes.

could compete on a price basis with our staple cereals as a source of calories, a real improvement in the state of nutrition of the lower income groups might be anticipated. Hence it is worth considering the present state of the potato industry in greater detail.

The story of potato production by Europeans since 1918 can be studied by examining Fig. 2, in which the area planted, the average yield and the crop obtained are given for each year. The area under potatoes decreased between 1918 and 1938, but the crop increased owing to improved yields. By the end of the war the morgenage, yield and the total crop had reached record levels, but these have since declined. The crop for the drought year 1951-52 was of about pre-war dimensions, but was derived from a much larger area at considerably lower average yields.

The Provincial distribution and yields will be found in Table IV as well as the results of a survey made in 1947 by the Potato Board on 'recognized potato producers'; the marked difference in the yields obtained by the latter group is particularly noteworthy. However, the 'yield per morgen' makes no allowance for the fact that in the Highveld and the O.F.S. it is usual to plant at the rate of 15 bags per morgen, whereas in the Middleveld 18, and in the

Lowveld 20 bags are used. Calculated on bags harvested to bags planted the return for the Highveld is 6.9; for the O.F.S. 6.7; for the Lowveld 6.1, and for the Middleveld 5.7. From Table IV (i), it is clear that potatoes are widely grown. The Transvaal Highveld has gradually become the main producing area and production here is increasing; nevertheless the seasonal contributions made by the Middle and Lowveld are important. In the O.F.S. production is mainly in the eastern and south-western districts, whereas in Natal and especially in the Cape it is more widespread and 2 annual crops are usually obtained. The Potato Board estimates that there are now about 2,000 farmers producing 1,000 bags or more annually. The marked tendency to increase the scale of operations is well brought out in Table V.

Handicaps to Production. In addition to the usual climatic hazards, these include tuber moth, late blight, eelworm and various other bacterial or fungoid diseases. Price relationships with other crops are such that in several areas the production of potatoes—and indeed other vegetables—is decreasing owing to strong competition from more profitable ventures. It follows that if production is to be increased or even maintained at current levels, the avoidance of gluts, with a disastrous fall in prices, should be a

TABLE V. NUMBER OF PRODUCERS GROWING 1,000 AND MORE BAGS OF POTATOES 1938-39 (Taken from Agricultural Census, 1938-1939)

Number of bags grown	Transvaal			O.F.S.	Cape	Natal	Total for Union
	Highveld	Lowveld	Total				
1-2,000	—	—	85	46	49	29	209
2-4,000	—	—	52	37	12	5	106
4-10,000	—	—	76	38	5	—	119
10-20,000	—	—	—	—	—	—	—
20,000 and over	—	—	13	10	—	—	23
	—	—	226	131	66	34	457

1947 (Taken from Potato Board Survey)

Total for Transvaal
and O.F.S.

	Highveld	Lowveld	Total	O.F.S.	Total for Transvaal and O.F.S.	Note: Transvaal excludes Middleveld; Cape and Natal not surveyed.
1-2,000	82	324	406	392	798	
2-4,000	39	69	108	54	162	
4-10,000	62	23	85	30	115	
10-20,000	14	—	14	12	26	
20,000 and over	12	—	12	—	12	
	209	416	625	488	1,113	

principal objective. To this end the Potato Board established in 1947 does what it can to make more orderly marketing, to increase consumption in the more remote districts including the Native Reserves, and to help stabilise the demand by developing an export trade.

Seed. The availability of really good 'seed', suitable for the locality as well as highly resistant to disease, is of prime importance for the successful cultivation of this crop. The seed position is improving and active steps are being taken to develop satisfactory strains for areas where these are not yet available; but this will take time. At present the demand for seed amounts to about 500,000 150-lb. bags per annum, of which the registered growers' associations supply a maximum of about 150,000 bags. During 1953, 75,000 100 lb. cases were imported.

Future outlook. The Potato Board is fully alive to the desirability of the potato taking its rightful place as an inexpensive staple foodstuff. But there are many difficulties to be faced, as will be appreciated from the above. Fortunately on the Trans-

vaal highveld its value as a rotation crop for maize is fast becoming realized; moreover, parts of the Transvaal are uniquely suitable climatically and potato growing also fits in well with the labour programme of the maize farmer. But until production becomes less precarious and the present fluctuations in the return to the grower are reduced, it is unfortunately doubtful whether any substantial reduction in the average price can be expected.

Thanks are due to officials of the Divisions of Economics and Markets and of Horticulture, and the Potato Board, for information supplied and for helpful comments.

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MEDICO-SOCIOLOGICAL DATA IN THE THERAPY OF HOMOSEXUALITY

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The procedure of utilizing medico-sociological data in the therapy of homosexuality carries with it the tacit admission that the treatment of this widespread condition has been unsatisfactory hitherto. The medico-sociological approach to the problem is fundamentally different from the purely psychiatric or psychological approach. Thus, whereas in the contemporary psychology the mind and body of man are conceived of as a substantive psychosomatic unity, in social or integral medicine he is regarded as something more complex, namely, as a psycho-somatic being in organic continuity with the environment. In effect, in social medicine the human personality is conceived of as a product of forces emerging from the psychic, somatic and environmental segments of the human continuum in a state of dynamic functional relationship.

Manifestly, then, the psychological reactions of an individual personality will be determined partly by the condition of the soma and the psyche, and partly by the complex of environmental factors. Thus the data of the special sciences like psychology, biology, economics etc. are, by themselves, insufficient to disentangle the real nature of man, or the character of medico-social phenomena generally. The inference then emerges that, side by side with these special sciences, there is a logical need for the development of a science which subserves the function of identifying uniformities and of formulating constant relationships in the field of medico-social phenomena. Social Medicine is the science which performs this function; it directs itself to an inter-correlation of the factors studied by each of these sciences, and then to the inter-correlation of the diverse factors and forces operating in man's nature, behaviour and relationships, and through these to social phenomena generally. These remarks throw light on the medico-sociological approach to the medico-social problem, of homosexuality.

The medico-sociological approach to a homosexual person involves a complete physical and psychological examination of the patient and an investigation of his psycho-socio-economic background. By correlating the findings obtained in each of these investigations it is possible to arrive at a conception of the chain of causal factors involved in an individual's homosexual deviation. To establish a basis for clinical judgment the homosexual deviate must be considered (1) as a *Homo biologicus*, (2) as a *Homo psychologicus*, and (3) as a *Homo sociologicus*.

THE HOMOSEXUAL AS HOMO BIOLOGICUS

Homosexuality may have a biological basis, but not necessarily so. The findings of zoological, embryological and clinical investigations have established that sex does not consist of two primary, completely differentiated divisions, masculine and feminine, which are entirely unrelated to each other. In the development of the foetus there exists a phase of undifferentiated sexuality from which

subsequent sexual differentiation proceeds. In so far as the evolution of the male and female sexuality proceeds from a neuter tissue, it is comprehensible that between the terminal extremes of male and female sexuality there must of necessity exist a number of evolutionary intermediate conditions, extending from flagrant forms of hermaphroditism to types that merge into normality. Then again two histological facts need to be considered: (i) that the gonads consist of two kinds of tissue, and they not only possess an external reproductive function, but also an internal or endocrine one concerned with the elaboration of hormones which determine the degree of maleness or femaleness; (ii) that every gonad is really an ovo-testis, with the testicular elements predominating in the male and the ovarian in the female. In an objective examination of a large random sample of men and women it will be discovered that there is a remarkably large proportion in whom feminoid and viriloid characteristics appear intermingled in various degrees. The intersexual conditions which will be met with may be classified into two main groups:

(a) in the first group intersexuality directly affects the reproductive glands, which then present as an obvious ovo-testis, and consequently affect all other sexual characters.

(b) In the second group the reproductive glands apparently possess sexual differentiability, and intersexuality is mainly limited to a given category of the sexual characters. Depending on the nature of these characters, the following sub-divisions can be distinguished in this category:

(i) If the intersexuality profoundly affects the internal and external genital organs we have masculine and feminine pseudo-hermaphroditism. In this the gonad is monosexual in contrast to the bisexual appearance of the sex characters.

(ii) If the intersexuality mainly affects the secondary anatomical sexual characters it produces virilization in the woman or feminization in the man. This (in contrast to viriloid or feminoid pseudo-hermaphroditism, which is congenital) supervenes in the course of later development, and so does not affect the genital organs, which are already definitely formed, but chiefly those features which are susceptible to subsequent modificative impacts, viz. the hair, the fat, and the larynx.

(iii) In certain cases intersexuality appears not as a permanent but as an episodic condition in connection with the great crises of sexual evolution, viz. puberty and the climacteric; this is known as 'critical' intersexuality. In the male at puberty the critical phase expresses itself as a transitory approximation to the feminine morphology; in the female at this period there is no proclivity towards virilism. At the climacteric crisis, however, the very opposite takes place; at this period it is the female who acquires a viriloid appearance, while the male tends to acquire an intensified masculinity. To put the matter concretely, sexual inversion in the male, in the schema of sexual evolution, is a regressive phenomena,

while in the female it is a progressive evolutionary process of elevation out of femininity.

(iv) If the intersexuality affects the functional sexual characters it gives rise to the phenomenon of homosexuality as well as other perversions of character and conduct.

In the light of these findings, the older sexologists, like Bloch, Hirschfeld, Havelock Ellis, Maranon, Steinach and Lipschitz, maintained that homosexuality is a phenomenon determined by a state of original intersexuality in the organism. But this view is an abstraction from the total clinical reality.

THE HOMOSEXUAL AS HOMO PSYCHOLOGICUS AND HOMO BIOLOGICUS

From the standpoint of social medicine it is a fallacy to attribute any medico-social phenomenon to the operation of a single factor. It cannot be stated inferentially that, because in homosexuality the perversion of the instinct coincides with a basis or organic bisexuality, intersexuality is equivalent to homosexuality. All we can say is that homosexuality may be associated with intersexuality. Indeed, although hormonal bisexuality may be associated with the development of homosexuality, it is not by itself sufficient for the development of the latter. A strictly virile man, or a strictly feminine woman, while in good health and living in a psycho-socio-economic environment which permits of a creative canalization of psycho-physical energy, is incapable of homosexual perversion; and if a homosexual is exposed to a healthy environment which ordinarily conditions a normal erotic reflex then one of two things may happen: either the defective constitutional factor will predominate, if the bisexuality is intense enough, without modifying the perversion, or else, if this is recessive, the normal environmental psychological factors will predominate and restore the erotic reflex to normality.

In the view of social medicine it is this conjunction of external psychological circumstances which is the principal determinant of the erotic conduct of an individual. Thus any psychological or social factor which inhibits or retards personality development may conduce to homosexuality. An example of this is the insistent prolongation of maternal care upon the adolescent child; this pattern of inverted mother-child relationship destroys the security of the child by a process of emotional suffocation, because the mother, instead of offering her personality to the child as a haven of security, uses the personality of the child as an anchor for her own. The child, then, in its desperate quest for security, is forced to retreat from the harrowing situation, and live within the cloisters of its own psyche. In our conception, the prolongation of the maternal eros upon an adolescent child is but a measure of the mother's own insecurity in the world of interpersonal relationships—within the family and within the community; it is but an index of her flight from a difficult objective situation to which adjustment has been impossible.

It is generally accepted that the two most important drives in man are the urge for security and the urge for social approval. Where the social disequilibrium in a society attains such a degree that a proportion of individuals are denied opportunities for the enjoyment of social security, these individuals will project the symptomatology of their insecurity. Fundamentally, this partakes of the character of

flight from an unpleasant reality. In a proportion of people this futile flight from reality is promoted by drink, drugs, or excessive introspection, or else is terminated by suicide. The purpose of these opiates is to dull the consciousness of the objective social situation, but their effect is to disintegrate the personality even further. A mother in her flight from reality seeks to recover her lost sensation of security, through a line of least resistance, by psychologically and perhaps physically fixating herself upon her child. The natural sense of psychic and physical security, which the child possessed through the primary fixation of its libido upon the mother, is consequently destroyed by the operation of the reverse process.

A child which is subjected to such a psychological trauma will be retarded in its psycho-sexual evolution; he will therefore regress or withdraw from the outer phenomenal world into the world of his own subjective consciousness, to find security and oblivion therein. This leads to that fatal sequence of psychological events—auto-erotism, narcissism, homosexuality. Generally speaking, in our integralistic conception, where homosexuality serves in the capacity of deadening the consciousness of frustration and defeat, there it may be construed as a form of maladjustive activity which is compensatory for the deprivation of mother-fixation security.

The implication flowing from our medico-sociological analysis is that homosexuality, along with alcoholism, crime, insanity, illegitimacy, homicide, suicide, infanticide, prostitution, divorce, etc., must be regarded as one of the indices of social disorganization. That is to say, in the vast majority of cases, the organic foundation bisexuality, recognized by Steinach *et al.*, does not bear a one-sided causal relationship to homosexuality, but on the contrary, it may be logically considered as a function of social disorganization taken as an independent variable. In effect, homosexuality is largely a sociological problem.

TREATMENT

The therapeutics of homosexuality, then, logically belongs to the domain of integral medicine; and the data required for the adequate treatment of the condition will necessitate (i) a physical examination of the patient to determine the degree of biological predisposition, i.e., the degree of intersexuality; (ii) a psychological examination to determine (a) the degree of his psychic regression, which will be reflected in the extent of his withdrawal from reality, and (b) the degree of his psychic repression, which will be reflected in the intensity of the persecutory attitudes on the part of parents or siblings, or teachers, schoolfellows, fellow-workers or employers; and (iii) an examination of the socio-economic background of the patient to determine the degree of frustration present. Medical science can do little at the present time to modify physical intersexuality in a homosexual individual; but far more can be therapeutically achieved by medico-sociological methods which aim at ameliorating the evil human environment in which affected individuals have been projected, and from which they have had to escape by the process of regressive sex behaviour, be it homosexuality or any other form of sexual perversion. The success of this integralistic approach to the problem will depend, in the ultimate, on the harmonic co-ordination of medical, juridical, and social-welfare agencies.

NUTRITION SOCIETY SYMPOSIUM

The 91st meeting of the Nutrition Society was held on 20 November at the Middlesex Hospital Medical School, London, W.1., in the form of a symposium on *The National Food Survey of Great Britain*. Dr. N. C. Wright, Chief Scientific Adviser, Ministry of Food, was in the Chair, and papers were read as follows: *Technique and Methods of the National Food Survey* by W. L. Readman of the Ministry of Food; *Economics, Nutrition and Family Food Budgets* by J. A. C. Brown, Department of Applied Economics, University of Cambridge; *The Pattern of the National Diet after Fourteen Years of Rationing* by C. J. Brown and S. Clayton of the Ministry of Food; *The Diets of Elderly Women Living Alone* by A. H. J. Baines and Miss D. F. Hollingsworth of the Ministry of Food; *Food and Family Size* by Mrs. E. H. Gibson, W. L. Readman and Miss G. M. Warnock of the Ministry of Food;

Review and Comparison with the Pre-War Carnegie Survey by Miss I. Leitch, Director, Commonwealth Bureau of Animal Nutrition, Rowett Research Institute, Bucksburn, Aberdeenshire.

The following meetings of the Nutrition Society will be held in 1955:

Edinburgh, 5 February, Scottish Group.

London, 12 March.

Ayr, 30 April, Scottish Group—Symposium at the Hannah Dairy Research Institute, Ayr, on *The Assessment of the Energy Value of Human and Animal Foods*.

London, 7 May Annual General Meeting.

Oxford, 8-9 July, Symposium on *The Nutritional Work of FAO, WHO and UNICEF*.

PRESIDENTIAL ADDRESS TO NATIONAL CANCER ASSOCIATION OF SOUTH AFRICA

In his Presidential Address to the National Cancer Association of South Africa on 19 November 1954 Dr. Lewis S. Robertson said: We are met here this afternoon to receive and adopt the Annual Report and Balance Sheet for the year 1953.

The Report records a summary of the activities of the Association during the past year and makes special mention of the preparations for the Appeal which is being launched for the National Cancer Fund during 1954.

Our thanks are due to those who have taken an active part in proceedings of the Council of Management and the Research Committee during the year under review, as well as to the members who have shown their faith in the Association by their contributions, thus enabling its work not only to continue but to expand.

I wish to draw attention to the Balance Sheet which reveals a deficit of £1,912 7s. for the year. This deficit was largely due to the appointment of an Organizing Secretary to undertake the work necessary for the preparation of launching the National Cancer Fund appeal during 1954.

During the past year there has, in several countries, been further intensification and extension in the investigation of the problem of cancer. Fundamental research has been pushed a stage further, fresh projects have been initiated, and improvements continue to be made in the methods of treatment. Only brief reference can here be made to a mere fraction of the investigations undertaken.

SMOKING

The question of tobacco smoking has received wide publicity, being a matter which affects the lives of a large section of the community. Statistical researches into the increased frequency of cancer of the lung have been undertaken by independent groups of workers in the United States and in Great Britain. Both studies concluded that the risk of developing cancer of the lung increases in proportion to the amount of smoking. A number of other authorities have added support to the view that 'the present evidence points to a relationship between lung cancer and cigarette smoking'.

Opinion, however, is not unanimous on the true weight to be given to cigarette smoking in this respect; primary cancer of the lung occurs, though to a less degree, among non-smokers.

Searching investigation into this problem is being actively pursued. The burning of a cigarette produces a tarry substance which comes under suspicion as a possible carcinogen in view of

the known carcinogenic nature of coal tar and soot. The tarry condensate obtained by smoking cigarettes in a machine has been applied to the skin of mice at frequent intervals. In one series of such experiments about half of the total number of mice developed cancer after prolonged application. Such experiments, though suggestive, do not duplicate the effects of smoking in man, and as yet no suitable experimental method for testing these has been arrived at, though experiments in this direction are in active progress.

Though this problem is urgent the experimental work is from its nature bound to take a long time, and an immediate answer cannot be expected. It is significant, however, that a general warning concerning the possible risk accompanying smoking, particularly of cigarettes, has been issued by the British Minister of Health.

There is a further complication which lies in the statistical association between the incidence of lung cancer and the density of population in cities. Town air contains appreciable amounts of chemical carcinogens, hence it is a reasonable hypothesis that the prolonged inhalation of such air, independent of smoking, may be conducive to the incidence of lung cancer.

OTHER RESEARCH

Research into methods of treatment of cancer are proceeding hand in hand with those on causation. Surgery and radiation remain the accepted standard treatments for the majority of cancers. Hormonal treatment of certain types of cancer, particularly of inoperable breast cancer, is being employed fairly extensively at the present time. Other new agents are also now being used in the treatment of certain types of malignant disease, such as radioactive isotopes and a group of cytotoxic agents which kill or injure the growing cell. Information regarding these newer forms of treatment is accumulating.

Before ending I would like to refer to the recent International Cancer Congress which was held in Brazil. The free and friendly exchange of knowledge of all civilized countries in the struggle against cancer is a heartening demonstration of universal co-operation in a vital work.

With these few general remarks I have great pleasure in proposing the adoption of the Report, Balance Sheet and Statement of Accounts for the year 1953.

HABIT-FORMING AND POTENTIALLY HARMFUL DRUGS: A GUIDE TO MEDICAL PRACTITIONERS

The following memorandum prepared by the Parliamentary Committee and approved by the Secretary for Health was submitted to the Federal Council at its meeting in October 1954. The Council resolved that it should be published for general information:

1. The Secretary for Health has intimated his concern regarding the control of habit-forming drugs. In so far as this affects the medical profession, it is felt that the laxity is in the main attributable to the fact that all medical practitioners are not fully conversant with the provisions of the Medical, Dental and Pharmacy Act relevant to this particular matter. It is therefore intended in this article to set out briefly the legal obligations of medical practitioners with regard to the use of habit-forming drugs and to explain the recent amendment to the Act which deals with a group of drugs defined as 'potentially harmful drugs'.

2. HABIT-FORMING DRUGS

Sub-sections 6 to 8 of Section 65 of the Medical, Dental and Pharmacy Act demand that:

'(6) Every . . . medical practitioner . . . who in the lawful exercise of his profession, uses or compounds or dispenses any habit-forming drug, shall cause to be entered in a book to be called the "register of habit-forming drugs" and to be kept exclusively for the purpose—

(a) the quantity of any such drugs possessed, imported or acquired by him as aforesaid;

- (b) the date of importation or acquisition;
- (c) the person from whom and the place from which the same were imported or acquired; and
- (d) the quantity which has been disposed of and whether by sale or by process of manufacture or dispensing or use in ordinary course of practice, . . . ;

Provided that, where a medical practitioner . . . keeps in a day book or prescription book, a record of prescriptions dispensed, with the name and address of the patient or person supplied and the date of supply, it shall be sufficient for him to state in his register of habit-forming drugs the total quantity of each such drug used for dispensing and the serial number of the relative entries in such day book or prescription book.

'(7) Every such register shall be kept up-to-date and in proper order and shall be balanced so as to show clearly the quantity of each habit-forming drug remaining in stock as on the last day of March, June, September and December of each year, the balancing to be completed within the three days following each of the dates herein mentioned.

'(8) Every such . . . register as is mentioned in this section shall be retained and preserved for a period of at least three years, and shall be open to inspection by any person authorised thereto in writing by the Minister . . . Failure to maintain and to produce such a register on demand renders the practitioner guilty of an offence.'

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A recent amendment to Sub-section 1 of Section 65 provides that all medical and dental prescriptions for habit-forming drugs must be written and signed by the prescriber himself. Previously the prescription had only to be signed by the prescriber. Furthermore, in terms of a recent amendment to paragraph (d) of Sub-section (5) of Section 65, the prescription is only valid for one issue of the drug prescribed, and cannot be repeated by the chemist as was previously the case.

3. POTENTIALLY HARMFUL DRUGS

The Group of drugs listed hereunder is regarded as potentially harmful and is referred to as the Sixth Schedule. The drugs falling within this schedule may be sold only on prescription. The prescription must:

- Be written and signed by a medical practitioner, dentist or veterinarian;
- Bear the date, name, address and qualification of the prescriber and the name and address of the patient;
- Not be repeated except on prescriber's orders appearing in writing on the prescription. The prescriber must indicate how many times and at what intervals the prescription may be repeated;
- Indicate the amount and frequency of doses except when it is a preparation for external use.

In an emergency a supplier may supply a potentially Harmful Drug on the verbal instructions of a medical practitioner personally known to him. The medical practitioner is, however, required to furnish the supplier with a written prescription within 24 hours. If a doctor has agreed by telephone that he will forward a prescription it is essential that he honour the agreement. Potentially harmful drugs may be supplied to a medical practitioner or a responsible medical officer of a hospital or other institution used solely for the reception of sick persons without the production of a prescription.

POTENTIALLY HARMFUL DRUGS: SIXTH SCHEDULE

Here follows a list of the substances appearing in the Sixth Schedule (in italics) to which has been added the names of some of the better-known medicines and preparations. It is not intended that all such medicines and preparations falling within the Schedule shall be found in this list; it is merely a guide.

Group

1. *Acetylcholine*.
Amechol. Mecholyl.
2. *Acetyl-Beta-Methylcholine*.
The substance: Acecoline, Hypotan, Brocholine, Pragma-line, Tonocholin.
3. *Allylisopropylacetylurea*.
Sedormid.
4. *Amidopyrine, its salts; and preparations and admixtures thereof*.
Irgapyrin, Pyramidon, Aminopyrine, Amidophen, Amido-febrin, Arcanol, Veramon, Novalgin, Allonal.
5. *Antibiotics, any antimicrobial substance synthesized by bacteria, fungi or protozoa, and any substance the chemical properties of which are identical with or similar to any such antimicrobial substance but which is not produced from living organisms, being a substance which is used in specific treatment of infections, except those substances, preparations and admixtures intended for external use, lozenges, and pastilles and except those substances, preparations and admixtures registered and sold under the provisions of the Fertilizers, Farm Feed Seeds and Remedies Act, 1947 (Act No. 36 of 1947)*.
Penicillin, Streptomycin, Aureomycin, Terramycin, Neomycin, Eskacillin, Leocillin, Erythromycin, Ilotycin, Chloromycetin, Chloramphenicol, Abbocillin, Sulpenin, Bacitracin.
6. *Anti-histamine substances indicated hereunder; their salts: Antazoline; Chlorcyclizine; diphenhydramine; 3-di-n-butylaminomethyl-4; 5; 6-trihydroxyphthalide; phenindamine; promethazine; substances being tetra-substituted N-derivatives of ethylene diamine or propylenediamine; and preparations and admixtures containing them, except when intended for external use.*
Thephorin, Avomine, Antistin, Benadryl, Coricidin, Chlor Trimeton, Antazoline, Promethazine, Chlorcyclazine, Anthisan, Dramamine, Diatrin, Trimeton, Neohetramine, Neo Antergan, Pyribenzamine, Phenergan, Thenylene, Diparalene.
7. *Barbituric Acid, its salts; derivatives of barbituric acid, their salts, compounds of barbituric acid, its salts, its derivatives, their salts; with any other substances except preparations or admixtures containing 0.25 per cent or less of any of these in association with medicinal substances and except the following:*
Preparations containing not more than one half grain per dose of these substances in combination with:
(i) not less than five grains of theobromine, or
(ii) not less than one quarter grain of ephedrine, or
(iii) not less than one and one half grains of theophylline ethylenediamine.
Alepsal, Allobarbitone, Amylobarbitone, Amytal, Barbitol, Belladenal, Bellergal, Butobarbitol, Butobarbitone, Cyclobarbitone, Cyclonal, Dial, Dional, Embinal, Gardenal, Hebaral, Sodium, Hexobarbital, Hexobarbitone, Hydantal, Seconal, Veronal, Pentobarbital, Phenobarbitone, Rutonal, Nembutal, Somnosol, Sonalgin, Soneryl, Tuinal, Euvalerol, Evipan, Evidom, Sandoptal, Pentothal, Kemithal.
8. *Beta-amino-propylbenzene; alpha-methyl-phenethylamine and derivatives having any group substituted by another radical; and preparations and admixtures thereof, except when contained in appliances for inhalation in which the poison is absorbed in inert solid material.*
Benzedrine, Desoxyn, Amphetamine, Hexadroxin.
9. *2-Benzyliminazoline hydrochloride.*
Priscol.
10. *Carbaminoylcholine, Carbamylcholine.*
Carbamed, Doryl, Moryl.
11. *Dicoumarol and Ethyl Biscoumacetate; and substances of a like nature.*
Dicoumarol, Tromexan.
12. *Di-isopropyl fluorophosphonate; and preparations and admixtures thereof.*
DFP
13. *Dinitrocresols, dinitrophenols, dinitronaphthols, dinitrothymols; and preparations and admixtures thereof, except preparations and admixtures not intended for the treatment of human ailments.*
DNC, DNOC.
14. *Gallamine triethiodide.*
Flaxedil.
15. *Hormones (natural or synthetic) except those substances, preparations and admixtures registered and sold under the provisions of the Fertilizers, Farm Feeds, Seeds and Remedies Act, 1947.*
Oreton, Gestone, Luteostab, Proluton, Methyltestosterone, Acthar, ACTH, Cortigen, Cortisone, Cortate.
16. *Nitrophenols; and preparations and admixtures thereof except preparations and admixtures not intended for the treatment of human ailments.*
DNN.
17. *Oestrogenic substances (natural or synthetic) except those substances, preparations and admixtures thereof registered and sold under the provisions of the Fertilizers, Farm Feeds, Seeds and Remedies Act, 1947.*
Progynon, Estradiol, Mimenformon, Sistomensin, Synthovo, Ovocyclin, Mixogen.
18. *Oxycinchoninic Acid, its salts and esters.*
Methyl Cinchophen, Cinchophen.
19. *Para-acetylamino-benzaldehyde-thiosemicarbazone (also known as thiosemicarbazone).*
Berculon A, Tibione, Contebin, Seroden, Neustab, Ethiazone.
20. *Para-aminobenzenesulphonamide; its salts, derivatives of para-aminobenzenesulphonamide having any of the hydrogen atoms of the para-amino group or of the sulphonamide group substituted by another radical; their salts; and preparations and admixtures thereof; except those substances and preparations and admixtures thereof intended for external use and*

- except those substances, preparations and admixtures registered and sold under the provisions of the Fertilizers, Farm Feeds, Seeds and Remedies Act, 1947.
- Albucid, Cremosuxidine, Sulphacetamide, Sulfanilamide, Sulfadiazine, Sulfaguanidine, Sulfamerazine, Sulfamethazine, M & B 693, M & B 760, Thiazamide, Sulfatriad, Sulfathiazole, Prontosil, Proseptasine, Thalazole, Diasulfacetyl, Triasulfacetyl.
21. *Para-aminosalicylic acid; its salts and preparations and admixtures thereof.*
PAS, Paramisan, Phenestal, Aminacryl.
 22. *Paraldehyde; and preparations and admixtures thereof.*
Somnex.
 23. *Phenothiazine; preparations and admixtures thereof; except those substances, preparations and admixtures thereof registered and sold under the provisions of the Fertilizers, Farm Feeds, Seeds and Remedies Act, 1947.*
Phenothiazine.
 24. *Phenylbutazone; and preparations and admixtures thereof.*
Butazolidin.
 25. *Phenylcinchoninic acid; its salts and esters.*
The substance.
 26. *Phenytoin (5 : 5-diphenylhydantoin).*
Epanutin, Dilantin, Eptoin.
 27. *Polymethylenebistrimethylammonium salts.*
Methonium compounds, eg. Scoline, Eulissin, Vegolysin, Esmodil, (Muscle Relaxants).
 28. *Salicylcinchoninic acid; its salts and esters.*
The substance.
 29. *Sulphonol, alkyl-sulphonals; and preparations and admixtures thereof.*
Sulphonol, Trional, Methylsulfonyl.
 30. *Tetra-ethyl-thiuramidisulphide.*
Antabus.
 31. *Tridione (3 : 5 : 5-trimethyloxazolidine-2 : 4-dione).*
Paramethadione, Tridione, Trimethadione.
 32. *Urethanes and ureides: all poisonous forms of; and preparations and admixtures thereof, except preparations and admixtures not intended for the treatment of human ailments.*
Thiouracil.
 33. *Vitamin B6 (pyridoxine hydrochloride).*
The substance, Benadon, Hexabetalin.
 34. *Vitamin B12 (Cyanocobalamin).*
The substance, Anacobin, Cytamen, Bitevan, Euhaemon, Rubramin.
 35. *Vitamin D2 (Calciferol).*
The substance, Viosterol, Ergosterol.
 36. *Vitamin E (Tocopherol).*
Wheat Germ Oil, Fertitol, Ephynal, Viteolin.

The above schedule has been extracted from a circular sent by the South African Pharmacy Board to all chemists and druggists.

IN MEMORIAM

DR. PHILIP BAYER, M.D., M.R.C.P.

With the passing of Philip Bayer, a great personality has been lost to the medical profession.



Dr. Philip Bayer

brilliance to medicine. His first achievement was his appointment as Physician in charge of the Johannesburg Fever Hospital, and it did not take long for him to prove himself an authority on infectious diseases, a reputation which he maintained for himself up

Dr. Bayer was born on 22 March 1902 at Beaufort West, C.P. He matriculated at Christian Brothers College, Kimberley, and qualified at Aberdeen University, Scotland. After a brilliant academic career, he obtained the M.D. Aberdeen and the M.R.C.P. London in 1926. Before returning to South Africa he held various hospital appointments in London and Scotland, including a registrarship and lecturership at Queen's Hospital, Birmingham.

He commenced practice as a Physician Specialist in Johannesburg in 1930, and it was at this early stage in his career that one first observed in him a fiery ambition to apply his academic

to the very end. He also held the appointment of Assistant Physician to the General Hospital, Johannesburg.

Those whose good fortune it was to come in contact with him, either in his capacity as an expert in Fevers or as a Physician were immediately impressed by the soundness of his clinical acumen, and by his profound practical knowledge of medicine.

Apart from these intellectual and professional qualities, he also revealed himself as a humanitarian with a constant desire to help the underdog. These qualifications earned for him the esteem and friendship of his colleagues and also of those who needed his professional assistance and care.

During the War years, Dr. Bayer acted as part-time medical consultant to the U.D. Forces.

His devotion to his profession and his untiring desire to serve justifiably earned for him the reputation of being one of the leading physicians in Johannesburg, a reputation which he zealously guarded throughout his life.

In 1948, at the zenith of his career, Dr. Bayer developed an illness which he himself knew was ultimately to be fatal, but in spite of this knowledge he carried on with fortitude and great courage, and treated his illness as if it were merely a nuisance. The last 6 years brought forth the finest qualities in him. In spite of the terrible handicap of suffering from his disease, he continued to give of his best to medicine. He sublimated his illness in such hobbies as music, gardening, and bridge, pleasures which his large circle of friends always helped him to enjoy.

He will be sadly missed by all his friends, colleagues and patients. Gone was a great young man!

M.M.

PASSING EVENTS : IN DIE VERBYGAAN

A Refresher Course for General Practitioners to be held at the Medical School of the University of Cape Town from 17 to 21 January 1955 will include lectures and demonstrations in Medicine, Surgery, Obstetrics and Gynaecology and the Specialities. These will be held at appointed times between 8 a.m. and 5 p.m. daily and on the evening of Wednesday, 19 January. Twenty-five sessions for the week will be distributed as follows:

General Medicine, General Surgery, Obstetrics and Gynaecology, Paediatrics, Dermatology, Eyes, Ear, Nose and Throat, Orthopaedics, Urology. The sessions will be mainly in the form of panel discussions and demonstrations.

Daily pathological and bacteriological demonstrations will be displayed at the Medical School. Daily radiodiagnostic demonstrations will be displayed at Groote Schuur Hospital. A symposium

on a subject of general interest at 8.15 p.m. on Wednesday, 19 January 1955.

All practitioners attending the course will be furnished with a full time-table of the routine activities at Groote Schuur Hospital during the week. Those who would prefer to attend operating sessions, out-patients' clinics, the cardiac or haematological clinics, ward rounds, etc. will be welcome to do so.

The fee for the course will be five guineas payable in advance to the Registrar, University of Cape Town. The number of practitioners accepted for the course, will be restricted.

Board and lodging will be available at the Medical Students residence for those desiring it (and for their wives) at a charge of one guinea per day. Applications, stating whether residential accommodation will be required or not, must be submitted to the Registrar, University of Cape Town, Private Bag, Rondebosch, by 4 December 1954.

* * *

Worcester Division of the Cape Western Branch. At a meeting held on Friday 22 October 1954 in the Worcester Hospital, Dr. J. I. Lipschitz of Cape Town gave an interesting lecture on *Dermatology in General Practice*.

* * *

Erratum. In the report of the recent meeting of the Federal Council in the *Journal* of 13 November 1954 (page 978) an error occurred in the name of one of the members elected for submission to the

Minister in connection with the appointment of a representative of the Association on the South African Council of Rehabilitation. The 3 members elected were Drs. Cyril Adler, G. T. du Toit and E. B. Woolf. The name of Dr. M. G. Woolf was printed by mistake.

* * *

The Annual Social Function and Banquet of the Cape Western Branch of the Association will be held at the Hotel Assembly, Main Road, Greenpoint, on Wednesday, 1 December 1954 at 7.30 p.m. All members of the Branch are invited. Tickets (£1 11s. 6d. each) may be obtained from the Branch Office (Tel. 3-1574) or from members of the Committee.

* * *

Dr. and Mrs. R. L. H. Townsend returned to Cape Town on the *City of York* on 8 November. While overseas Dr. Townsend attended the Oxford Ophthalmological Congress, the XVIIIth International Congress of Ophthalmology held in New York, and the 59th Annual session of the American Academy of Ophthalmology and Otolaryngology.

* * *

Cape Town Paediatric Sub-Group. The next meeting of the above sub-group will be held on Friday, 10 December, in the E Floor Lecture Theatre of Groote Schuur Hospital, Cape Town, at 8.15 p.m. The speaker for the evening will be Dr. H. T. Phillips and he will deliver an address on *The Social Aspects of Paediatrics*.

BOOK REVIEWS : BOEKRESENSIES

HISTORY OF OBSTETRICS AND GYNAECOLOGY

Historical Review of British Obstetrics and Gynaecology 1800-1950. Edited by J. M. Munro Kerr, R. W. Johnstone and Miles H. Phillips. (Pp. 419+vii, with 14 tables. 30s.) London, Edinburgh: E. & S. Livingstone Ltd. 1954.

Contents: Obstetrics. General Review—Period I—1800-1850. 1. The Maternity Services. 2. Pregnancy. 3. Labour. 4. The Haemorrhages. 5. Pelvic Malformations—Pelvimetry. 6. Obstetric Operations. General Review—Period II—1850-1900. 7. Anatomy and Physiology. 8. Pregnancy. 9. Labour. 10. The Haemorrhages. 11. Injuries of the Birth Canal. 12. Pelvic Malformations—Pelvimetry. 13. Obstetric Operations. General Review—Period III—1900-1950. 14. Anatomy and Physiology. 15. Pregnancy. 16. Labour. 17. The Haemorrhages. 18. Injuries of the Birth Canal. 19. Pelvic Malformation—Pelvimetry. 20. Obstetric Operations. 21. Obstetrics and Gynaecology in Ireland since 1800. 22. Special Subjects. 23. The Initiation and Development of Antenatal Care. 24. Toxaemias of Pregnancy. 25. Pregnancy and Associated Disease. 26. Complications Associated with the Utero-Vaginal Canal. 27. Puerperal Infection. 28. Obstetric Anaesthesia and Analgesia. 29. Radiography in Obstetrics and Gynaecology. 30. Maternal Mortality—Still-birth and Neonatal Mortality. 31. The Medical Schools and the Teaching of Midwifery. 32. Obstetrical Societies and Clubs. 33. Journals 1800-1950. 34. Midwife Services. Gynaecology. 35. Foreword. 36. The Rise of Surgical Gynaecology. 37. Plastic Vaginal Surgery. 38. The Progress of Radio-Therapy in Gynaecology. 39. The Sex Hormones in Gynaecology. Indexes.

This historical review of obstetrics and Gynaecology covers the changes from 1800 to 1950, thus becoming a sequel to Spencer's review of British midwifery, which deals with the 150 years 1650-1800.

A great deal of research went into the writing of this volume; over a thousand names are mentioned in the text and many more references are given.

For purposes of general review the 150 years are divided into three 50 year periods and discussed under broad headings. In addition special subjects are treated separately. The initiation of antenatal care is traced from the first realization that the foetal heart could be heard abdominally to the work of Wilson in Australia.

The control of puerperal sepsis, the increasing safety of Caesarean section and the indications for this operation as opposed to difficult vaginal delivery are well presented and discussed.

Of especial interest is the account of the founding of the teaching of midwifery and the growth of the maternity services. It graduated from a position 'where no gentleman of breeding would undertake midwifery' to be on an equal footing with surgery and medicine.

Seven-eighths of the book is devoted to obstetrics, gynaecology being a relatively new growth and one which, but for the efforts

of Victor Bonney and Lawson Tait, might well have been lost to the surgeons.

The book gives one a very good 'bird's-eye view' of progress in the last 50 years. It is unfortunate that space does not allow a fuller account of personalities and their work, for in parts it tends to become a catalogue of men and events.

D.M.

NOTABLE BRITISH TRIALS

The Trial of John Thomas Straffen. Edited by Letitia Fairfield, C.B.E., M.D., Barrister-At-Law, and Eric P. Fullbrook, Clerk to the Justices, Reading County. (Pp. 298+xiii. 15s.) Edinburgh, Glasgow, London: William Hodge and Company Limited. 1954.

Contents: First Trial. 1. First Day—Monday, 21 July 1952. Second Trial. 2. First Day—Tuesday, 22 July 1952. 3. Second Day—Wednesday, 23 July 1952. 4. Third Day—Thursday, 24 July 1952. Appendices.

John Thomas Straffen was tried at the Taunton assizes in 1951 for the apparently motiveless murder of two little girls in Bath, in the same year. He was found unfit to plead and committed to Broadmoor Institution. Eight months later this man escaped and strangled a third little girl in the village of Broadmore itself. This book deals with his trial for the murder of the third child.

Interesting points are; firstly, that a man certified as mentally defective and previously found unfit to plead is now made to stand trial for a similar offence. Secondly, the case illustrates very well the gap in the M'Naughton rules which leaves unprovided-for those in-between cases of insanity into which Straffen fits, in that 'although labouring under a defect of reason from disease of the mind—yet he knew the nature and quality of the act he was doing'.

Straffen was found guilty and sentenced to death; however on the recommendation of the Home Secretary he was reprieved, on 29 August 1952, and committed to Wandsworth Prison—much against public opinion.

Certain impressions are formed in reading this book: Firstly, a revulsion at the callousness of the three identical crimes—done purely to spite the police and apparently not sexual in nature. Then one cannot help feeling that a large measure of responsibility for the third murder lay on the Broadmoor officials for not keeping Straffen under closer observation. Lastly, an admiration for the defence counsel, who faced an almost impossible task against an

overwhelming Crown case, aided by confessions from Straffen, by public opinion and by the M'Naughton rules.

This book is another fine example of the Notable British Trials Series and should provide thoughtful reading for members of the medical profession with a psychiatric or medico-legal trend, as well as members of the legal profession. For the lay public

it would require a fair degree of will-power to prevent a biased opinion being formed early in the book due to the nature of the crimes.

The authors, Dr. Letitia Fairfield and E. P. Fullbrook, are to be complimented.

P.W.

CORRESPONDENCE : BRIEWERUBRIEK

SPECIALISTS AND CONSULTANTS REGISTER

To the Editor: I have always been under the impression that the consultant is the adviser of the family doctor in charge of the patient. Recent events have made me wonder whether this is the present attitude of the profession.

Do general practitioners usually ask the patient to choose the consultant? If so, it seems to me that a consultants' register can have no meaning, in that a consultant's opinion will be sought for reasons other than his medical skill.

Specialist

6 November 1954

A CASE OF TUBERCULOUS DACTYLITIS RESPONDING WELL TO CHEMOTHERAPY

To the Editor: The following case may be of interest to a number of your readers:

V.R., a non-European female infant of 9 months, weighing 25 lb., was admitted to this hospital on 18 February 1953. She was found to have tuberculous consolidation of the right upper lobe, with associated right mediastinal and hilar lymphadenitis.

She was treated with streptomycin $\frac{1}{2}$ g. and isonicotinic acid hydrazide 75 mg. daily, plus bed rest, and a good all-round diet with supplementary vitamins and mineral salts. After 2 months, chemotherapy was discontinued because her chest had improved considerably, but not sufficiently to warrant discharge from hospital.

On 18 October 1953 I noticed a hard non-tender swelling over the dorsal aspect of the second metacarpal of her right hand. This was X-rayed on 19 October (Fig. 1), and it proved to be



Fig. 1

Fig. 2

caused by a tuberculous dactylitis. Chemotherapy was therefore reinstituted. From 18 October to 18 December streptomycin $\frac{1}{2}$ g. every third day, and isonicotinic acid hydrazide 75 mg. daily was given. From 19 December 1953 to 19 February 1954 para-aminosalicylic acid 2 g. daily and streptomycin $\frac{1}{2}$ g. every 3 days was given.

An X-ray taken on 25 February 1954 (Fig. 2) shows the marked improvement after 4 months' chemotherapy. Chemotherapy was

continued till 27 August. Later films show further healing of the second metacarpal, and an almost complete return to normal can be seen on one taken on 6 August.

At no stage was there any cold-abscess formation. I believe that this case is of interest, because even as late as 1950¹ treatment of this condition necessitated surgical interference of some kind in the majority of cases.

J. Suskin

The Dr. A. J. Stals Memorial Sanatorium
P.O. Retreat
Cape

1. British Encyclopaedia of Medical Practice, 2nd ed., vol. 3, p. 38-40. London: Butterworth & Co. (Publishers) Ltd.

P.S. I would like to thank Dr. F. L. Thomas, Medical Superintendent of the Dr. A. J. Stals Memorial Sanatorium for allowing me to publish this case, and Mr. T. B. McMurray, Visiting Orthopaedic Surgeon, for allowing me to print the X-ray films.

TEKORT AAN VERPLEEGSTERS

Aan die Redakteur: Dit spyt my om uit 'n brief van Dr. P. D. Nel in u blad op 30 Oktober 1954 te verneem dat die moontlike „blootstelling aan onredelike vernedering in ons kleurlingmansale" sommige aspirant verpleegsters afskrik.

Dit is wel te verstaan dat sommige meisies wat aan die begin van hulle loopbaan van verpleegster is, sulke gevoele van teësin mag koester, maar ons kan tog verwag dat hulle meerderes hulle reeds baie gou met die edele tradisies van 'n verpleegster inboesem.

Florence Nightingale, wat die grondslag gelê het vir die tradisies van hulle beroep, het die soldate in die Krim Oorlog in die haglikste omstandighede gaan verpleeg. Dit was in 'n tyd nie baie lank nadat Wellington verklaar het nie dat sy soldate die „skuim van Europa" was. Die enigste persone wat haar probeer verneder het was vanuit haar eie aristokratiese kringe, om die owerhede, wat vir die aaklige toestand verantwoordelik was, te probeer beskerm. Laat ons tog nie ook so 'n floue verskoning soek nie. In dieselfde mate as ons Medici, behoort verpleegsters altyd die bekende leuse *Humani nihil a me alienum puto* voor oog te hou.

Dat meer natuurlike-verpleegsters moet opgelei word, spreek van self, want ons klein blanke bevolking kan onmoontlik alleen die nodige getalle volhou. In Europese lande waar die bevolking oneindig groter as by ons is, word dieselfde tekort aan verpleegsters hedendaags gevoel.

R. Theron

S.A. Mutual-gebou 27
Bloemfontein
9 November 1954

ACCIDENTS

To the Editor: I wonder if someone has overlooked the fact that almost all industrial accidents are, under the Workmen's Compensation Act, now treated by private medical practitioners, and therefore don't come to the notice of public hospitals, while practically all highway accident cases are invariably sent to public hospitals.

B. Rostowsky

Hashahar
10 Marmien Rd.
Oranjezicht
16 November 1954

(The above letter comments on the Editorial appearing in the *Journal* on 13 November (p. 966) in which it was argued that the pattern of accidents and their prevention should be the subject of research by the medical profession.—Ed.)



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CLINICAL OBSERVATIONS. Significant trials in medical institutions show that 'Nyxolan' is a most reliable anthelmintic when used alone, i.e. without supportive purgation, enemas or anal counter-irritants. Abstracts from literature describing clinical results are available on request.

ADVANTAGES. 'Nyxolan' is not a dye; it is non-arsenical; it does not induce diarrhoea; dietary regimen is not necessary to its successful employment. It is entirely acceptable, even to infants.

INDICATIONS. Present clinical experience with 'Nyxolan' refers to *Oxyuris vermicularis*. Besides its indication in oxyuriasis 'Nyxolan' is the preferred treatment in cases of suspected oxyuriasis, e.g. pruritus, anal eczema, masturbation and genital sensitivity in small girls, "caecal irritation".

FORM AND POSOLOGY. 'Nyxolan' is presented in liquid form, the active ingredient being incorporated in a syrup which ensures ready acceptance by children.

Daily dosage of 'Nyxolan' is:—Children under 6 years, 1 dessertspoonful thrice daily; Children over 6 years, 1 tablespoonful four times daily; Adults, 2 tablespoonfuls thrice daily.

PRESENTATION. Bottles of 8 fluid oz. net.

★ 'Nyxolan' is widely used in other countries under the name 'Alaxyn' Not publicly advertised.

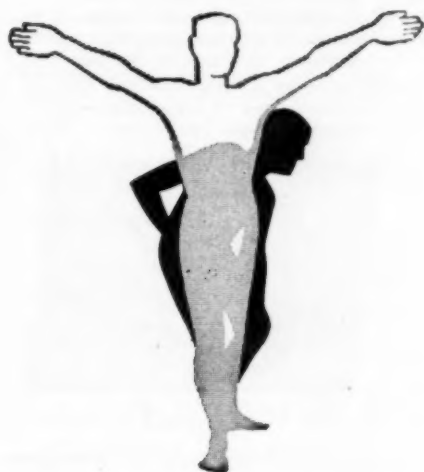
HOMMEL'S HÆMATOGEN & DRUG CO., 121 NORWOOD RD., LONDON, S.E.24.



Our Sole Agents for SOUTH AFRICA:— Messrs. LENNON LIMITED

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P.O. Box 928. JOHANNESBURG, TRANSVAAL · P.O. Box 76. EAST LONDON
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The Rheumatic Patient -a New Approach



In rheumatic disorders the commonest symptom, and the most trying to the patient, is pain. Following the pain comes muscle spasm, which leads to disability, loss of function—then more pain, more spasm. MEPHOSOL (containing mephenesin) breaks this vicious circle by the direct abolition of skeletal muscle pain. It is analgesic and antispasmodic.

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MEPHOSOL

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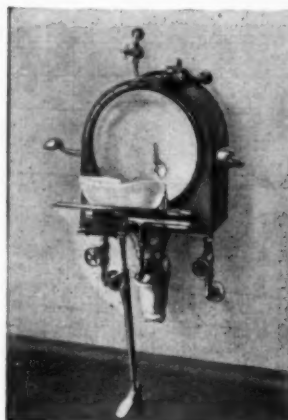


The food value of milk is increased 45% by making it into Bournville Cocoa. What a pleasant way of getting children to drink the extra milk they need to help resist winter ills! Cocoa nourishes, sustains, provides warmth and energy—and Bournville Cocoa is particularly good because it's so rich in cocoa butter. Cocoa at night is a child's delight.

A cup of Cocoa

is a cup of Food

C.E.P.A.-3234-W4



**'PROTECTOR'
BEDPAN
WASHER**

Manufactured by

**Dent & Hellyer Ltd.,
LONDON**

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ANUSOL Haemorrhoidal Suppositories

• TRADE MARK REGD.

Anusol* are probably the best known and most widely prescribed rectal suppositories. They relieve pain safely in haemorrhoids and uncomplicated inflammatory rectal states, by the removal of pressure on nerve endings through effective decongestive action; the nerves are not anaesthetized and continue to give warning of more serious pathology. The same decongestive action reduces extravasation of blood without the use of styptics, haemostatics or vasoconstrictors.

*Available in boxes of 12 suppositories.
Anusol is also available in Ointment form.*

INDICATIONS. For non-surgical treatment of haemorrhoids that are still amenable to palliative therapy; where surgery is inadvisable as in pregnancy; when operation is refused. For pre- and post-operative care.



NO WARNER PREPARATION HAS EVER BEEN ADVERTISED TO THE PUBLIC

WM. R. WARNER & COMPANY (PTY) LTD., 6-10 Searle Street, Capetown.

132 Bx



In Rheumatic Diseases

especially Arthritic and Fibrositic Conditions and Gout, particularly in the chronic stage,

LEUCOTROPIN

IS THE SPECIFIC OF CHOICE

because—it has an immediate analgesic, antiphlogistic and antipyretic effect and increases Joint Mobility.

Leucotropin excretes Uric Acid and stimulates A.C.T.H. production.

Available in Ampoules of 5 c.c. or 10 c.c. and Tablets.

EACH AMPOULE OF 10 c.c. CONTAINS:—

Phenylcinchoninate of Hexamine	- gr. 23 (1.5 Gm.)
Hexamine	- - - gr. 26 (1.7 Gm.)
Sodium Salicylate	- - - gr. 44 (0.3 Gm.)
Caffeine	- - - gr. 14 (0.1 Gm.)
Distilled Water	- - - to 10 ml. (10 cc.)

EACH TABLET CONTAINS:—

Phenylcinchoninic Hexamine	- gr. 5 (0.30 Gm.)
Phenylcinchoninic Quinine	- gr. 24 (0.15 Gm.)
Starch	- - - gr. 4 (0.05 Gm.)

Literature and Samples from:

FRENCH DISTRIBUTING CO. (S.A.) (PTY) LTD.
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Manufactured by Silten Ltd., Hatfield, Herts, England.

The Medical Association of South Africa Die Mediese Vereniging van Suid-Afrika

AGENCY DEPARTMENT : AGENTSAP-AFDELING

CAPE TOWN : KAAPSTAD

Posbus 643, Telefoon 2-6177 : P.O. Box 643, Telefoon 2-6177
Waalstraat 35 35 Wale Street

PRACTICES FOR SALE : PRAKTYKE TE KOOP

(1457) Goed gevestigde Westelike Provinsie praktyk. Netto inkomste oorskry £3,000 per jaar. Huis beskikbaar. Verband kan gereël word. Volle besonderhede op aanvraag.

(1530) Karoodorp. Eenmanspraktyk sonder opposisie. Gemiddelde inkomste £2,000 p.j. Premie verlang £700. Huis te huur teen £8 p.m. D.S. aanstelling.

(1756) In Oostelike Provinsie-dorp geleë in uitstekende woldistrik. £4,208 Kontant ontvangste jaar eindigende Junie 1954. Net een ander geneesheer. Koopprijs van £1,375 sluit in geneesmiddels, instrumente en apteekmeublement. Betaling kan in paaiemente geskied.

(1757) Eastern Province Seaport. Half share in excellent practice to gentle purchaser. Knowledge of Afrikaans essential. Full details on application.

(1791) Well-established practice in small attractive Eastern Cape Coastal Town. D.S. appointment available. Gross income with D.S. £3,000 p.a. £1,000 for goodwill, drugs, instruments and office furniture. Terms available. Rebate for quick cash sale. Excellent scope for expansion.

(1794) Vennootskapsaandeel in Karoo-praktyk. Ontvangste ± £4-5,000 per jaar. Koopprijs in halwe aandeel in praktyk, geneesmiddels en sommige instrumente £1,700. Betaling kan gereël word. Kortings vir kontant. Klein hospitaal beskikbaar.

ASSISTANTS/LOCUMS REQUIRED

ASSISTENTE/PLAASVERVANGERS VERLANG

DAAR IS 'N DRINGENDE BEHOEFTE VIR ASSISTENTE EN PLAASVERVANGERS IN PLATTELANDSE EN STEDELIKE GEBIEDE. BESONDERHEDE OP AANVRAAG.

REGISTERED RADIOLOGIST

(1793) Bilingual radiologist, man or woman, required for inland centre: (a) as locum either for month December or January. Salary £200-£250 per month depending on experience. (b) as assistant with view to partnership. Terms to be arranged. Details supplied on application.

FOR SALE : TE KOOP

(1513) Spreekkamermeubels, geneesmiddels en instrumente.

(772) Strand. Instrument cabinet.

* * *

DURBAN

112 Medical Centre, Field Street. Telephone 2-4049

PRACTICES FOR SALE

(PD28) Durban. General practice, also non-European surgery. Owing to ill-health owner wishes to sell as soon as possible. Premium £1,750. House for sale £8,000.

(PD30) Durban. Old-established good class, mainly European practice. Premium £3,000. Owner intends specializing.

(PD31) Natal Inland. Unopposed prescribing practice, mainly Native. Monthly cash receipts average £450. Premium required £2,500 includes surgery, furniture and instruments. House for sale. All sporting facilities.

(PD32) Northern Natal. Well established general mixed practice of 20 years standing. M.O.H. and D.S. appointments. All hospital facilities. Premium £1,500 including surgery furniture and drugs. House £12 per month. For immediate sale.

Physician Specialist unopposed Practice for immediate sale. Inland City Premium £2,500 includes £1,000 equipment.

LOCUMS REQUIRED

(SV5) Locum for January. £3 3s. per day plus board and lodging. £10 car allowance and petrol. Natal Hospital town. Travelling allowance to and from practice for reasonable distance.

(LD6) Natal. From 8 to 23 January 1955. Mainly non-European dispensing with mine Hospital appointment. Own car necessary. £3 3s. per day, all found.

ASSISTANT REQUIRED

(NC5) Assistant required in general practice, country practice. 75% non-European. No surgery or midwifery undertaken. Very little night work. Commence December 1954. Salary £1,200 p.a. ½-hour drive from Durban.

* * *

JOHANNESBURG

Medical House, 5 Esselen Street. Telephones: 44-9134, 44-0817

Mediese Huis, Esselenstraat 5. Telefoon: 44-9134, 44-0817

Tel. Add.: 'Serpent'

ASSISTANTS/LOCUMS REQUIRED ASSISTENTE/PLAASVERVANGERS BENODIG

(708) Southern Rhodesia. A locum is required for a large general practice, as from second week in April 1955, for one month. Preferably man who would consider staying on as an assistant with view to partnership. Salary £100 p.m. plus all found. A car is not essential.

(706) Wes-Transvaal. 'n Assistent is benodig vanaf 2 Januarie 1955. Salaris £100 p.m. plus vry petrol en olie en diens van kar plus £10 p.m. kartoelae.

(705) An assistant is required for a large partnership practice in the Free State. Excellent terms to be arranged. 120 miles from Johannesburg.

(704) Near Johannesburg. A locum is required for 3 months, as from 1 December or later. Large partnership practice. £3 3s. 0d. per day, plus all found, plus a car allowance.

(699) Locum is required as from 12 December for 1 month. Will suit a newly qualified man. £3 3s. 0d. per day, plus all found. Twelve miles from Johannesburg.

(692) Large hospital town, within easy reach of Johannesburg. Locum as from 12 December for 1 month. Partnership practice. £3 3s. 0d. per day plus all found and a car allowance.

(690) Groot Transvaalse dorp. Plaasvervanger vanaf 18 Desember tot 18 Januarie. £3 3s. 0d. per dag, plus alles vry. Aangename pos.

(689) Transvaal—vennootskap praktyk—100 myl vanaf Pretoria Plaasvervanger vir Desember en Januarie in hierdie vennootskap praktyk, en volgens keuse een maand op dorpie 18 myl daarvan. Salaris £90 p.m. vry losies, petrol en olie en £5 per 1,000 kartoelae.

(666) Vrystaat. Plaasvervanger vir een maand vanaf 15 Desember. Terme, £3 3s. 0d. per dag, vry losies, petrol en olie en 'n kartoelaag van £10 per 1,000 myl.

(652) Large hospital town close to Johannesburg. A Locum is required as from 10 December for one month. Salary £3 3s. 0d. per day, plus all found and a car allowance. Native practice. Practically no night work.

(627) O.F.S. Locum required as from 10 December for one month. Salary £3 per day, plus all found. Car could be provided.

(640) O.F.S. Goldfields. Locum is required for December and January. £3 3s. 0d. per day, plus free board and lodging, petrol and oil. Partnership practice.

(688) Reef hospital town. Locum for one month as from 13 December. Salary £3 3s. 0d. per day plus all found. A car could be provided. Partnership practice.

PART-TIME WORK REQUIRED

Johannesburg. Part-time work or assistantship required, by an experienced doctor. Mornings only.

NATAL MOTOR INDUSTRY HEALTH FUND

The Natal Motor Industry Health Fund wishes to appoint a medical practitioner to work on its behalf in the Newcastle area. Further details may be obtained from, and applications should be submitted to the Secretary, P.O. Box 2838, Durban.

RADIOGRAFISTE BENODIG

Benodig Radiografiste onmiddellik vir privaat Radiologiese praktyk in Bloemfontein. Doen aansoek A.X.B. Posbus 643, Kaapstad.

SPECIAL NOTICE**PROVINCIAL ADMINISTRATION OF THE CAPE OF GOOD HOPE****(HOSPITAL DEPARTMENT)****VACANCY : HONORARY MEDICAL OFFICER, PROVINCIAL HOSPITAL, PORT ELIZABETH**

Intending applicants for the abovementioned vacancies which were advertised in the *Journal* of 20 November 1954 are advised that the closing date for applicants has been extended to 4 December 1954.

Provincial Administration of the Cape of Good Hope**(HOSPITALS DEPARTMENT)****VACANCIES: MEDICAL STAFF**

Applications are invited from registered Medical Practitioners for appointment for a period of 1 year, subject to renewal thereafter, to the following posts on the staff of the Provincial Hospital:

Post	Emoluments
Medical Practitioner, Grade 'B'	£720x40—960 per annum.
Medical Practitioner, Grade 'A'	(3 posts) £500—600—660—720 per annum.

In addition to the rate of pay indicated, a variable cost of living allowance at rates prescribed from time to time by the Administrator is payable (Current rates: Married men, £352 per annum; Others £110 per annum).

The privileges of free board, quarters and laundering are not attached to these posts.

The conditions of service are prescribed by the Hospital Board Service Ordinance No. 19 of 1941 (Cape), as amended, and the regulations framed thereunder.

The duties of the incumbent of the post of Medical Practitioner, Grade B, will be:

1. To act in the capacity of Senior Casualty and Surgical Officer.
2. To supervise the work of Interns.
3. To undertake the care of sick nurses.
4. To carry out such minor administrative duties as may be assigned to him by the Medical Superintendent.

Incumbents of the posts of Medical Practitioner, Grade A, will be required to act primarily in one of the following capacities but will, in addition, be required to perform such duties as may be assigned to him by the Medical Superintendent:

- (a) Anaesthetist.
- (b) Obstetrician.
- (c) Orthopedist.

Applications must be made on the prescribed form (Staff 23) which is obtainable from the Medical Superintendent of the Provincial Hospital, Gipson Road, Port Elizabeth, to whom applications must be addressed to reach his office not later than 18 December 1954.

J. H. McLean
Medical Superintendent

Port Elizabeth
18 November 1954

14591

SAINT GILES ASSOCIATION**HONORARY SPECIALIST IN PHYSICAL MEDICINE AND HONORARY PHYSIOTHERAPIST**

Applications are invited for the above posts, to reach the Honorary Organizer, Remedial Clinic, P.O. Box 1625, Cape Town, not later than 15 December 1954.

VENNOOT BENODIG

Vennootskappraktyk in baie groot vooruitstrewende hospitaaldorp in N.-Transvaal. Vennoot tree uit 1 April 1955. Inkomste baie goed. Alleenlik privaat praktyk onderneem. Algemene Praktisyn met ondervinding in algemene praktyk en ook belangstelling in snykunde verlang. Doen aansoek A.X.C., Posbus 643, Kaapstad.

Local Health Commission**VACANCY FOR ASSISTANT MEDICAL OFFICER OF HEALTH**

Applications are invited from registered Medical Practitioners possessing a recognised Diploma in Public Health or State Medicine to fill the above permanent pensionable position on the salary grade £1,130x50—1,280 per annum plus cost-of-living allowance, which is at present £234 per annum for married officials.

Further particulars and official application forms are obtainable from the undersigned.

The appointment and commencing salary are subject to the prior approval of the Minister for Health.

Applications in sealed envelopes endorsed "Application for Assistant Medical Officer of Health" will be received by the Secretary until noon on Friday 17 December 1954.

D. R. Donaldson
Secretary

Local Health Commission Offices
195 Longmarket Street
Pietermaritzburg
15 November 1954

Basutoland Government**VACANCIES FOR MEDICAL OFFICER OF SCHOOLS AND HEALTH**

Applications are invited from registered Medical Practitioners for the above pensionable post on the salary scale £865 : £865 : 935x35—1,005x45—1,140x45—1,320. Cost of Living Allowance is payable; the present rates are:

Married Officers on the first £800 of salary, 19%: on the remaining salary, 14%. Maximum allowance £212 per annum. Single Officers, one-half of the above rates, subject to a maximum of £106 per annum.

Rental deduction of 10% of salary for furnished quarters.

Increments will be given on first appointment for war service and approved professional experience, and additional increments will be given to a successful candidate holding a Diploma in Public Health.

An allowance of £150 per annum in lieu of private practice will be granted.

Subject to the exigencies of the service six weeks' accumulative vacation leave and two weeks' non-accumulative occasional leave is granted each year. Overseas' leave passage allowance for officer, wife and proportionate allowance for children every three years.

Further particulars and forms of application may be obtained from the Director of Medical Services, Maseru, Basutoland.

2535/54

Township of Isipingo Beach**VACANCY: PART-TIME MEDICAL OFFICER OF HEALTH**

Applications are hereby invited from suitably qualified persons for the position of Part-time Medical Officer of Health at a salary of £75 per annum inclusive of Cost of Living Allowance.

Conditions of appointment may be inspected at the Town Clerks Office, Isipingo Beach.

Applications must reach the undersigned by 15 December 1954.

P. J. Woodiwiss
Town Clerk

FOR SALE: SANATORIUM SITE, HOT SPRINGS

14,000 acres adjoining Montagu Commonage. River, streams, hot springs. Abundant game. £2,500 cash, balance bond. T. M. Davison & Sons, Barclay's Bank Bldgs., Adderley Street, Cape Town. 2-5528. (House 7-6561.)

POST REQUIRED

Surgeon in New York wishes post, origin Jamaica, registered and experience in Ireland. Contact: International Employment Agency, 29 Park W, Room 209, Windsor, Ontario, Canada.

Provincial Administration of the Cape of Good Hope

HOSPITALS DEPARTMENT

HOSPITAL BOARD SERVICE : VACANCY

1. Applications are invited from registered medical practitioners for appointment to the following vacant post:

Division	Post	Hospital	Salary Scale	Closing Date
Professional and Technical	Medical Practitioner, Grade A. (Anaesthetist)	Frere Hospital, East London	£500—600—660—720 p.a.	28.12.54

Applications to be addressed to the Medical Superintendent.

2. The conditions of service are prescribed in terms of Hospital Board Service Ordinance No. 19 of 1941, as amended, and the regulations framed thereunder.

3. In addition to the scale of salary indicated a cost of living allowance at rates prescribed from time to time by the Administrator is payable to whole-time officials and employees.

4. The successful candidate, if not already in the Hospital Board Service, will be required to submit satisfactory birth and health certificates.

5. Application must be made on the prescribed form (Staff 23) which is obtainable from the Director of Hospital Services, P.O. Box 2060, Cape Town, or from the Medical Superintendent of any Provincial Hospital or Secretary of any School Board in the Cape Province.

6. Candidates must state the earliest date on which they can assume duty. 129337

Natal Provincial Administration

VACANCIES : REGISTRARS AT GREY'S, EDENDALE, ESHOWE, EMPANGENI, VRYHEID AND NEWCASTLE HOSPITALS

Applications are invited from Registered Medical Practitioners for appointment to the posts of Registrar at the following hospitals:

Grey's—(General Duties).

Edendale Non-European—(Outpatient Department, Anaesthetics).

Eshowe—(General Duties).

Empangeni—(General Duties).

Vryheid—(General Duties).

Newcastle—(General Duties).

Salary is on the scale £720—840x60—1.020.

Cost of Living Allowance is also payable at the following rates:

Married (Male) £320 per annum.

Single (Male and Female) £100 per annum.

The posts are not pensionable at present but may be made pensionable during the course of the next year.

Applications for the posts must be made on Form Z.83, which is obtainable from any Provincial or Government Office, and must be forwarded with full particulars of previous experience, to the Director of Provincial Medical and Health Services, P.O. Box 20, Pietermaritzburg.

AD8479

Hottentots-Holland Hospital Somerset West

VACANCY

Applications are invited from registered Medical Practitioners for a post on the Honorary Staff of the Hospital.

Particulars and application form (Staff 23) may be obtained from the Medical Superintendent to whom the completed application forms should be sent so as to reach him not later than 31 December 1954.

Provinsiale Administrasie van die Kaap die Goeie Hoop

HOSPITAALDEPARTEMENT

HOSPITAALRAADSDIENS : VAKATURE

1. Aansoeke word ingewag van geregistreerde geneeshere vir aanstelling tot die volgende vakante pos:

Afdeling	Pos	Hospitaal	Salarisskaal	Sluitingsdatum
Professionele en Tegniese	Geneesheer, Graad A. (Narkotiseur)	Frere-hospitaal, Oos-Londen	£500—600—660—720 p.j.	28.12.54

Aansoeke moet aan die Mediese Superintendent gerig word.

2. Die diensvoorwaardes word voorgeskryf ingevolge die Ordonnansie op Hospitaalraadsdiens nr. 19 van 1941, soos gewysig, en die regulasies wat daarkragtens opgestel is.

3. Benewens die salarisskaal soos aangedui is 'n lewenskoste-toelae betaalbaar aan voltydse beamptes en werknemers teen bedrae wat van tyd tot tyd deur die Administrateur vasgestel word.

4. Die geslaagde kandidaat, indien nie reeds in die Hospitaalraadsdiens nie, moet bevredigende geboorte- en gesondheid-sertifikaat indien.

5. Aansoek moet gedoen word op die voorgeskrewe vorm (Staf 23) wat verkrygbaar is by die Direkteur van Hospitaal-dienste, Posbus 2060, Kaapstad, of by die Mediese Superintendent van enige provinsiale hospitaal of by die Sekretaris van enige Skoolraad in die Kaapprovinsie.

6. Kandidate moet die vroegste datum meld waarop hulle diens kan aanvaar. 129337

Natalse Provinsiale Administrasie

VAKATURES : ADJUNK-ASSISTENTGENEESHHERE TE GREYSHOSPITAAL, DIE HOSPITAAL VIR NIE-BLANKES TE EDENDALE, EN DIE HOSPITALE TE ESHOWE, EMPANGENI, VRYHEID EN NEWCASTLE

Aansoeke om aanstelling in die betrekking van Adjunk-assistent-geneesheer aan die ondergenoemde hospitale word van geregistreerde mediese praktisyns ingewag.

Greyshospitaal—Algemene pligte.

Hospitaal vir nie-blankes, Edendale (buitepasientafdeling, narkotisering).

Hospitaal te Eshowe—Algemene pligte.

Hospitaal te Empangeni—Algemene pligte.

Hospitaal te Vryheid—Algemene pligte.

Hospitaal te Newcastle—Algemene pligte.

Salaris is volgens die skaal £720—840x60—1.020.

Duurtetoelag teen onderstaande tariewe is ook betaalbaar:

Getroudes (Mans): £320 per jaar.

Ongetroudes (Mans) of (Vroue): £100 per jaar.

Die poste is op die oomblik nie pensioengewend nie maar dit mag in die loop van die volgende jaar pensioengewend gemaak word.

Aansoeke om die betrekking moet gedoen word op die voorgeskrewe vorm Z.83, wat verkrygbaar is by enige provinsiale of goewernementskantoor, en moet tesame met volledige besonderhede van vorige ondervinding, gerig word aan die Direkteur van Provinsiale Mediese en Gesondheidsdienste, Posbus 20, Pietermaritzburg.

AD8479

Hottentots-Holland Hospitaal Somerset-Wes

VAKATURE

Aansoeke word ingewag van geregistreerde geneeshere vir aanstelling tot 'n pos op die mediese Ere-Personeel van die Hospitaal.

Besonderhede en voorgeskrewe aansoekvorms (Staf 23) is verkrygbaar by die Mediese Superintendent.

Die voltooië aansoekvorms moet aan die Mediese Superintendent gerig word en moet hom uiters op 31 Desember 1954, bereik.

Provinsiale Administrasie van die Kaap die Goeie Hoop

HOSPITAALDEPARTEMENT

HOSPITAALRAADSDIENS : VAKATURE

Aansoeke word ingewag van geregistreerde Geneeshere vir aanstelling tot die volgende vakante pos:

Afdeling	Pos	Hospitaal	Emolumente	Sluitingsdatum
Professionele en Tegnieke (Deeltyds)	Geneesheer, Bellville Vrye Apteek		£1 1s. 0d. per twee (2) uur-sessie drie keer voor-middag per week 9 vm.-11 vm.	4.12.54

Aansoeke moet aan die Mediese Superintendent, Kaapstadse Vrye Apteek, Buitenkantstraat, Kaapstad, gerig word.

Die diensvoorwaardes word voorgeskryf ingevolge die Ordonnansie op Hospitaalraadsdiens no. 19 van 1941, soos gewysig, en die regulasies wat daarkragtens opgestel is.

Aansoek moet gedoen word op die voorgeskrewe vorm (Staf 23) wat verkrygbaar is by die Direkteur van Hospitaaldienste, Posbus 2060, Kaapstad, of by die Mediese Superintendent van enige provinsiale hospitaal of by die Sekretaris van enige Skoolraad in die Kaapprovinsie.

Kandidate moet die vroegste datum meld waarop hulle diens kan aanvaar.

M129322

Provinsiale Administrasie van die Kaap die Goeie Hoop

UNIVERSITEIT VAN KAAPSTAD : GESAMENTLIKE MEDISESE PERSONEEL VIR GROOTE SCHUUR EN ANDER OPLEIDINGSHOSPITALE

VAKATURE

1. Aansoeke word ingewag van geregistreerde Geneeshere (geregistreerde Spesialiste) vir aanstelling tot die:

DEPARTEMENT VAN MEDISYNE

Geneesheer, Graad E—sessies—salaris £146 per jaar per sessie.
2. Die diensvoorwaardes word voorgeskryf ingevolge die Ordonnansie op Hospitaalraadsdiens no. 19 van 1941, soos gewysig, en die regulasies wat daarkragtens opgestel is.

3. Van die Gesamentlike Mediese Personeel word vereis om die Provinsiale Administrasie van die Kaap die Goeie Hoop en die Universiteit van Kaapstad gesamentlik te dien.

4. Kandidate moet nie minder as drie jaar ondervinding na registrasie as 'n Spesialis in die spesialiteit waarin die vakature bestaan, opgedoen het nie.

5. 'n Sessie is vier uur per week in verband met kliniese en/of opleidingswerk, maar is nie noodwendig onafgebroke nie.

6. Aansoek moet gedoen word op die voorgeskrewe vorm (Staf 23), wat verkrygbaar is by die Direkteur van Hospitaaldienste, Posbus 2060, Kaapstad, of by die Mediese Superintendent van enige provinsiale hospitaal, of by die Sekretaris van enige skoolraad in die Kaapprovinsie.

7. Die ingevulde aansoekvorms moet aan die Direkteur van Hospitaaldienste, Posbus 2060, Kaapstad, gerig word, en moet hom uiters op 11 Desember 1954 bereik. Kandidate moet die vroegste datum meld waarop hulle diens kan aanvaar.

8. Kandidate moet die maksimum aantal sessies vermeld wat hulle by aanstelling gewillig sal wees om te onderneem, asook die dae en tye wat hulle verkies.

M129321

PRACTICE OR PARTNERSHIP REQUIRED

Experienced practitioner requires practice or partnership. Higher qualifications and overseas post graduate experience. Mainly interested in Paediatrics. Rhodesia considered. Apply A.W.W., P.O. Box 643, Cape Town.

Training in Psychiatry at McGill University

The Department of Psychiatry, McGill University, Montreal, has a limited number of openings for training, and applications are now being considered. Applicants must have graduated from an approved medical school and have had a general internship of one year.

The four-year Diploma Course provides general basic preparation during the first two years. The last two years provide special patterns of instruction for those: (a) planning to enter the field of general hospital, community or university psychiatry; (b) preparing themselves for a career in child psychiatry; (c) intending to enter the field of research psychiatry.

Credit may be allowed for previous training. Shorter periods of instruction may be arranged, as well as instruction in special fields. Full training in psychoanalysis also may be undertaken within the Department of Psychiatry by suitably prepared candidates. Separate application for this training is required.

All those accepted for training are assigned to one of the seven teaching centres in Montreal. These positions carry with them board and lodging, or, in lieu of lodging, a living-out allowance together with an honorarium ranging from \$40 to \$100 a month, depending upon the clinical position to which the applicant is assigned. For those in the advanced years of the course, clinical positions carrying higher salaries are available. In several centres, additional emoluments of \$1 800 a year are available, mainly in the form of bursaries, these being issued under certain conditions in regard to which information will be given on request.

Applicants should write to the Chairman of the Department of Psychiatry, McGill University, Montreal, Canada.

Public Service Vacancies

1. The attention of Medical Practitioners registered with the South African Medical and Dental Council is drawn to an advertisement appearing in the Government Gazette of the 19th and 26th November and 3rd December, 1954, inviting applications for the undermentioned posts in the Public Service.

Post	Salary Scale	Department or Administration
Medical Inspector of Schools (Transvaal Education Department)	£1,080 × 60—1,500	Transvaal Provincial Administration.
Member: Silicosis Medical Bureau (Johannesburg)	£1,380	Mines.
Medical Officer (Johannesburg, Durban and Mossel Bay)	£1,020 × 60—1,380	Health.
District Surgeon, Grade III (Louis Trichardt)	£1,020 × 60—1,380	Health.

2. In addition to salary a cost of living allowance at the rate of £234 per annum is at present payable to married officers.

3. It is emphasized that full particulars of qualifications and experience must be furnished but original certificates and testimonials should not be submitted. Application forms (Z.83 and P.S.C.8(a)) are obtainable from the department administration indicated to whom complete forms must be addressed.

4. The closing date for the receipt of applications is 24 December 1954. 48185

PART-TIME MEDICAL OFFICER

Applications are invited for the appointment of a Part-time Medical Officer to a manufacturing company in Durban.

The Medical Officer's duties will include examinations on two afternoons per month of a section of the Company's employees, as and when such examination is considered desirable by the Company on the advice of the Medical Officer.

The fee attaching to the post will be sixty guineas per annum, unless the attendances exceed thirty hours in any one year, in which case additional attendances will be remunerated at Medical Association's rates of two guineas per hour or part thereof.

Replies to P.O. Box 2080, Durban.

Transvaalse Provinsiale Administrasie

VAKATURES BY PUBLIEKE HOSPITALE

Aansoeke word ingewag van kandidate met geskikte kwalifikasies vir die onderstaande poste by Publieke Hospitale in die Transvaal.

Aansoeke moet gerig word aan die Geneeskundige Supertendent of Verantwoordelike Geneesheer van die betrokke hospitaal en moet volle besonderhede bevat aangaande die ouderdom, professionele, akademiese en taalkwalifikasies, ondervinding en huwelikstaats van die applikant en moet voorts 'n aanduiding bevat van die vroegste datum waarop diens aanvaar kan word. Afskrifte van onlangse getuigskrifte moet aangeheg word by aansoeke.

Lewenskostetoelae tans betaalbaar aan voltydse werknemers:

Lewenskostetoelae		
Salaris	Getroude	Ongetroude
Oor £350 per jaar	£352 per jaar	£110 per jaar

Van persone wat aangestel word, sal verwag word om bevre-

digende sertifikate in te dien, asook om hulle te onderwerp aan 'n geneeskundige ondersoek by die betrokke hospitaal.

Aansoekvorms is verkrygbaar van enige Transvaalse Publieke Hospitaal of die Provinsiale Sekretaris, Afdeling Hospitaaldienste, Posbus 2060, Pretoria.

Benewens jaarlikse salaris en lewenskostetoelae ontvang voltydse werknemers spoorwegkonsessie en word verlof toegestaan ooreenkomstig die hospitaal verlofregulasies.

Die sluitingsdatum van aansoeke vir die poste is 15 Desember 1954.

Pos	Hospitaal	Emolumente	Aanmerkings
Chirurg (Doserend)	Algemeen Johannesburg en die Universiteit van die Witwatersrand	£1,800 p. j.	Geregistreerde Mediese Praktisyn. Hoër graad in Chirurgie 'n vereiste.
Deeltydse Spesialis Chirurg en Hoof van Departement	Pietersburg	£456 p. j. 2 sessies per week	Geregistreerde Mediese Praktisyn met 'n hoër graad in Chirurgie 'n aanbeveling.
Deeltydse Spesialis Chirurg (Assistent vir die Hoof)	Pietersburg	£615 p. j. 3 sessies per week	do.
Deeltydse Maksillêre Gesigs-Tandarts	Baragwanath, Johannesburg	£456 p. j. 2 sessies per week	Gekwalifiseerde Tandarts met 'n hoër graad in Tandheelkunde.
Deeltydse Dermatoloog	Verre Oosrand, Pk. New State Areas	£205 p. j. 1 sessie per week	Geregistreerde Mediese Praktisyn. Hoër graad in Interne Geneeskunde 'n vereiste.
Deeltydse Algemene Praktisyn Junior Spesialis (Interne Geneeskunde)	Bethal (6) Pretoria	£170 p. j. 1 sessie per week £1,200 x 50—1,500	Geregistreerde Mediese Praktisyn. Geregistreerde Mediese Praktisyn met hoër kwalifikasies in Interne Geneeskunde.
Kliniese Assistent	Pietersburg	£620, 780, 820, 860	Geregistreerde Mediese Praktisyn. Moet minstens twee jaar gekwalifiseerd wees.
Kliniese Assistent (Narkose)	Vereeniging Pietersburg	do. do. do.	do. do. do.

Pos	Hospitaal	Emolumente	Aanmerkings
Mediese Beampte	Verre Oosrand, Pk. New State Areas	do.	Geregistreerde Mediese Praktisyn.
Ongevalle Beampte	Algemeen, Johannesburg (13) Vereeniging Verre Oosrand, Pk. New State Areas	do. do. do.	do. do. do.
Senior Huisdokter (Ongevalle)	Algemeen, Johannesburg	£480 p. j. Plus losies en inwoning of 'n toelae van £120 p. j. ten opsigte van losies en inwoning	Geregistreerde Mediese Praktisyn.
Senior Inwonende Mediese Beampte	Nigel, Pk. Dunnottar. Vereeniging, Verre Oosrand, Pk. New State Areas	do. do. do.	do. do. do.
Intern	Nigel, Pk. Dunnottar	£240 p. j. Plus losies en inwoning of 'n toelae van £120 p. j. ten opsigte van losies en inwoning	—
Intern	Vereeniging, Verre Oosrand, Pk. New State Areas	do. do.	—
Intern	Ontdekkers Gedenk, Pk. Florida	do. do.	—

48032

Rhodesia Railways

LOCUM TENENS : LIVINGSTONE

Applications are invited from registered Medical Practitioners, for a Locum Tenens at Livingstone, from 10 December 1954 to approximately end of June 1955. Surgical experience a recommendation.

Salary: An inclusive fee of £3 3s. 0d. per day.

Private Practice: Permitted.

Transport: Applicant must provide his own motor car, but a reasonable monthly supply of petrol is provided and an allowance of 1/- per mile granted when travelling to the Victoria Falls on duty.

Housing: Furnished house available at reasonable rental.

Travelling: Free return Railway fare paid from point of engagement for applicant and his family.

For further information, stating age, nationality, qualifications and enclosing recent testimonials apply to:

The Chief Medical Officer

Rhodesia Railways

P.O. Box 792

Bulawayo, M.D. 91

91

ASSISTENT / VENNOOT BENODIG

Algemene praktisyn in groot en baie vooruitstrewende platelandse hospitaaldorp benodig, 'n medewerker wat ook belangstel in Snykunde. Inkomste baie groot. Alleenlik privaat praktyk word onderneem. Tweetalige Engelsprekende Christen ook welkom. Bel Pretoria 78-2928 (verkieslik tussen 6 en 10 n.m.) of skryf na 'Vennoot', Posbus 643, Kaapstad.

Provincial Administration of the Cape of Good Hope

VICTORIA HOSPITAL, WYNBERG : HONORARY MEDICAL APPOINTMENT

Applications are invited from registered Medical Practitioners under the age of sixty years for appointment to the honorary post of Senior Anaesthetist at the Victoria Hospital, Wynberg.

The successful applicant will be required to assume duty on 1 January 1955, or as soon as possible thereafter.

The annual honorarium payable before the thirty-first day of March of each year shall be calculated by multiplying the average number of in-patients treated in the hospital during the preceding calendar year by £10, provided that no member of the honorary medical staff shall be apportioned more than £105 per annum.

Applications stating age, qualifications, etc. should be forwarded to reach the Medical Superintendent, Central Office, 58 Loop Street, Cape Town, or P.O. Box 1487, Cape Town, not later than noon on Saturday 18 December 1954.

M372211

Natal Provincial Administration

VACANCY - MEDICAL SUPERINTENDENT : DUNDEE HOSPITAL

Applications are invited from registered medical practitioners for appointment to the post of Medical Superintendent, Dundee Hospital.

The salary scale attached to the post is £1,680 per annum (fixed). In addition to the salary, a temporary cost of living allowance is payable at prescribed Public Service rates, the present rates being:

Married (male): £234 per annum.

Single: Nil.

The post is not pensionable at present but may be made pensionable during the course of next year.

Applications must be made on the prescribed form, Z.83 which is obtainable from any provincial or Government office, and must be forwarded with full particulars of previous experience, etc., to the Director of Provincial Medical and Health Services, P.O. Box 20, Pietermaritzburg, to reach him not later than the 31 December 1954.

AD8457

Industrial Council for the Clothing Industry (Natal) Sick Benefit Fund

FULL-TIME MEDICAL PRACTITIONER

Applications are invited from Registered Medical Practitioners for a full time appointment with the above Fund, which caters for both European and non-European members.

The commencing emoluments will amount to £1,800 per annum. The successful applicant will be required to attend the sick at the Fund's Clinic and to perform other duties not inconsistent with those of a Medical Practitioner.

Hours: Monday to Friday, 7.45 a.m. to 4.30 p.m.
Saturdays, 7.45 a.m. to 12 noon.

Further particulars may be obtained from the undersigned,

P.O. Box 1331
Durban.

Bruce Brinton
Secretary

BRASS PLATES

TO MEDICAL COUNCIL SPECIFICATION

VICTOR C. GLAYSHER

CAPE TOWN
165 BREE STREET

PHONE
2-5111

Provinsiale Administrasie van die Kaap die Goeie Hoop

VICTORIA-HOSPITAAL, WYNBERG : ERE-MEDIESE AANSTELLING

Aansoeke word ingewag van geregistreerde mediese geneeshere onder die ouderdom van sestig jaar vir aanstelling tot die erepos van Senior Narkotiseur by die Victoria-Hospitaal, Wynberg.

Die suksesvolle applikant moet dienste aanvaar op 1 Januarie 1955 of so gou moontlik daarna.

Die jaarlikse honorarium betaalbaar aan die ere-mediese personeel voor die een-en-dertigste dag van Maart elke jaar sal bereken word deur die gemiddelde daaglikse getal binnepasiënte wat gedurende die voorafgaande kalenderjaar in die hospitaal is, met £10 te vermenigvuldig, met dien verstande dat geen lid van die ere-mediese personeel meer as £105 per jaar mag ontvang.

Aansoeke wat melding maak van ouderdom, kwalifikasies ens. moet gestuur word aan die Mediese Superintendent, Sentrale Kantoor, Loopstraat 58, of Posbus 1487, Kaapstad, om hom nie later as Twaalf middag op Saterdag 18 Desember 1954 te bereik nie.

M372211

Natalse Provinsiale Administrasie

VAKATURE : GENEESHEERSUPERINTENDENT HOSPITAAL TE DUNDEE

Aansoeke om aanstelling in die betrekking van Geneesheersuperintendent, hospitaal te Dundee, word van geregistreerde mediese praktisyns ingewag.

Die salaris verbonde aan die betrekking is £1,680 per jaar (vas). Benewens die salaris is ook 'n tydelike duurtetoetslag teen die voorgeskrewe staatsdiensteriewe betaalbaar, en wel as volg:

Getroudes (mans): £234 per jaar.

Ongetroudes: Geen.

Die betrekking is op die oomblik nie pensioengewend nie maar dit mag in die loop van volgende jaar pensioengewend gemaak word.

Aansoek moet gedoen word op die voorgeskrewe vorm, Z.83, wat van enige provinsiale of staatskantoor verkrygbaar is, en aansoek, vergesel van volledige besonderhede van ervaring, ens., moet aan die Direkteur van Provinsiale Mediese en Gesondheidsdienste Posbus 20, Pietermaritzburg, gestuur word, sodat dit hom voor of op 31 Desember 1954 bereik.

AD8457

Moroka Methodist Mission Hospital Thaba 'Nchu, O.F.S.

Applications are invited for the post of Interne. The post is particularly suitable for someone interested in Surgery.

Emoluments at the rate of £300 per annum (including cost of living allowance), plus board, lodging and laundry.

The hospital is situated 40 miles east of Bloemfontein, has 120 beds, an X-ray and two well equipped operating theatres. Applicants must be in sympathy with the Christian Witness of the Mission and willing to assist in the training of student nurses. We are recognized as a first class training school for nurses.

For further particulars apply Medical Superintendent.

University of the Witwatersrand, Johannesburg

MEDICAL SCHOOL

The undermentioned diploma course in the Faculty of Medicine may be offered in 1955:

Diploma in Clinical Pathology.

The closing date for the receipt of applications for admission to the course is 10 December 1954.

All applications should be lodged with and further information is obtainable from, the Assistant Registrar, Medical School, Hospital Hill.

G No. 5785

Provincial Administration of the Cape of Good Hope

KIMBERLEY HOSPITAL, KIMBERLEY VACANCIES—SIX POSTS INTERNS

Applications are invited for appointment to posts of Junior Medical Officer (Interns) at the Kimberley Hospital.

The salary attaching to the post is £240 per annum plus board, quarters and laundering.

In addition to the salary and allowances stated above, a temporary non-pensionable Cost of Living Allowance is payable at rates and on the conditions that may be prescribed by the Administration from time to time.

The appointment will be in terms of and subject to the provisions of Ordinance No. 19 of 1941 as amended and the regulations framed thereunder.

The application must be made on the prescribed form (Staff 23) which is obtainable from the Medical Superintendent, Kimberley Hospital, P.O. Box 618, Kimberley. D1531

Provincial Administration of the Cape of Good Hope

KIMBERLEY HOSPITAL, KIMBERLEY VACANCIES : MEDICAL PRACTITIONERS GRADE A AND B

Applications are invited from suitably qualified persons for the following vacant posts at the Kimberley Hospital, Kimberley:

Post	Emoluments
Medical Practitioner, Grade A.	£500—£600—£660—£720 p.a.
Medical Practitioner, Grade B.	£720 × £40—£960 p.a.

The conditions of service are prescribed in terms of Hospital Board Service Ordinance No. 19 of 1941, as amended, and the regulations framed thereunder.

Applicants for the post of Medical Practitioner Grade B must be registered with the South African Medical and Dental Council for at least one year after completion of Internship.

In addition to the scale of salary indicated a Cost of Living Allowance at rates prescribed from time to time by the Administrator is payable to whole-time officials and employees. The present rate is £352 per annum for married and £100 per annum for single persons.

Applications should be addressed to the Medical Superintendent, Kimberley Hospital, P.O. Box 618, Kimberley, giving particulars of experience, qualifications, age, marital state, etc., and stating earliest date on which they can assume duty. D1531

Siekfonds van die Suid-Afrikaanse Spoorweë en Hawens

Aansoeke word ingewag van geregistreerde spesialiste vir aanstelling in die ondervermelde betrekking:

Huidsiektekundige, Pretoria : Salaris £972 p.j.

Volle besonderhede in verband met die aanstelling kan verkry word van:

Die Distriksekretaris, Oos-Transvaalse Distriksiekfondsraad, Scheidingstraat, Pretoria.

Sluitingsdatum vir aansoeke : 15 Desember 1954.

P. J. Klem
Hoofsekretaris

Johannesburg
20 November 1954

HOUSE FOR SALE

Suitable for doctor or dentist. On busy main thoroughfare in Claremont, Cape. Five rooms, two fitted for consulting and dispensing. House in very good repair. Excellent area for energetic person. Good bond available. Price £4,750. Apply Deary Trust Co., Main Road, Rondebosch.

Provinsiale Administrasie van die Kaap die Goeie Hoop

VAKANTE POSTE : SES INTERPOSTE

Aansoeke word ingewag vir aanstelling in die pos van Junior Mediese Beampte (Intern) by die Kimberley-Hospitaal.

Die salaris aan die pos verbonde is £240 per jaar, plus vry inwoning, wasgoed en losies ingesluit.

Ter aanvulling aan die bogenoemde salaris en toegewings, is 'n tydelike nie-pensioendraende lewenskostoelaag betaalbaar volgens skaal en op voorwaardes wat van tyd tot tyd deur die Administrasie voorgeskryf word.

Die aanstelling is onderhewig aan die bepalings en voorwaardes van ordonnansie no. 19 van 1941, soos gewysig en regulasies daaraan verbonde.

Die applikasie moet geskied op die voorgeskrewe vorm (Staf 23) wat verkrygbaar is van die Mediese Superintendent, Kimberley-hospitaal, Posbus 618, Kimberley. 1531

Provinsiale Administrasie van die Kaap die Goeie Hoop

KIMBERLEY-HOSPITAAL, KIMBERLEY

VAKATURES : MEDIESE GENEESHERE, GRADE A EN B
Aansoeke word ingewag van persone met geskikte kwalifikasies vir aanstelling tot die ondergenoemde vakante poste by die Kimberley-Hospitaal, Kimberley.

Pos	Emolumente
Mediese Geneesheer, Graad A	£500—£600—£660—£720 per jaar.
Mediese Geneesheer, Graad B	£720 × £40—£960 per jaar.

Die diensvoorwaardes word voorgeskryf ingevolge die Ordonnansie op Hospitaalraadsdiens nr. 19 van 1941, soos gewysig en die regulasies daarkragtens opgestel.

Aansoeke om die pos van Mediese Geneesheer, Graad B, moet geregistreer wees by die Suid-Afrikaanse Mediese en Tandheelkundige Raad vir minstens een jaar na voltooiing van internskap.

Benewens die salarisskaal soos aangedui is 'n lewenskostoelaag aan voltydse beampes en werknemers betaalbaar teen bedrae wat van tyd tot tyd deur die Administrateur vasgestel word. Die huidige tarief is £110 per jaar vir ongetroude persone en £352 per jaar vir getroude persone.

Aansoeke moet gerig word aan: Die Mediese Superintendent, Kimberley-Hospitaal, Posbus 618, Kimberley. Volle besonderhede van ondervinding, kwalifikasies, ouderdom, huwelikstaats, ensovoorts, moet verstrekk word. Applikante moet die vroegste datum waarop hulle diens kan aanvaar vermeld. D1531

Medical Officer

Applications are invited from Registered Medical Practitioners for the post of Railway Medical Officer on the Construction Works, Bannockburn/Pafuri Extension from 1 January 1955 or as soon thereafter as possible. (Bannockburn is some 15 miles from Shabani and Pafuri is on the Southern Rhodesia-Portuguese East Africa border.)

Salary: £1,800 per annum (inclusive of all allowances). Motor transport provided. Free unfurnished field quarters provided.

The duties will consist of providing medical attention to Railway employees and their dependants (European and African) and to the employees of Railway Contractors, and their dependants, engaged on construction work. Also supervision of hygiene. The appointment is a temporary post for a minimum period of nine months with a possible extension. Further information will be supplied to suitable applicants.

Applications, stating age, qualifications, previous experience, birth place, civil status, nationality, copies of recent testimonials and stating earliest date possible for commencement of duties, should be forwarded immediately to: The Chief Medical Officer, Rhodesia Railways, P.O. Box 792, Bulawayo. M.D.117

Provincial Administration of the Cape of Good Hope

UNIVERSITY OF CAPE TOWN: JOINT MEDICAL STAFF FOR GROOTE SCHUUR AND OTHER TEACHING HOSPITALS: VACANCY

1. Applications are invited from registered medical practitioners (registered specialists) for appointment to the following post:

Department of Paediatrics:

1 post of Medical Practitioner, Grade D, with salary on the scale £1,200x50—1,500 per annum.

2. The conditions of service are prescribed in terms of Hospital Board Service Ordinance No. 19 of 1941, as amended, and the regulations framed thereunder.

3. In addition to the scale of salary indicated, a cost-of-living allowance at rates prescribed from time to time by the Administrator is payable to whole-time officials and employees.

4. The Joint Medical Staff is required to serve jointly the Provincial Administration of the Cape of Good Hope and the University of Cape Town.

5. Candidates must be registered specialists in the speciality in which the vacancy exists.

6. Application must be made on the prescribed form, Staff 23, which is obtainable from the Director of Hospital Services, P.O. Box 2060, Cape Town, or from the Medical Superintendent of any Provincial hospital or Secretary of any school board in the Cape Province.

7. The completed application forms must be addressed to the Director of Hospital Services, P.O. Box 2060, Cape Town, and must reach him not later than 18 December 1954. 129335

South African Council for Scientific and Industrial Research

BURSARY FOR RESEARCH INTO CAUSES OF ANAESTHETIC DEATHS

Applications are invited from medically qualified persons for a bursary of £1,200 to undertake full-time research into the causes of anaesthetic deaths. Transport and subsistence will be provided when necessary. Bursary is initially for one year but may be renewed for a further two years. The bursar will work mainly in Pretoria and Johannesburg. Experience in anaesthetics and/or pathology will be a recommendation.

Applications, giving full information, including publications or previous research work, to reach Secretary/Treasurer, C.S.I.R., P.O. Box 395, Pretoria, by 15 January 1955.

Suid-Afrikaanse Wetenskaplike en Nywerheidsnavorsingsraad

BEURS VIR NAVORSING NA OORSAKE VAN NARKOSESTERFGEVALLE

Aansoeke word ingewag van gekwalifiseerde medici vir 'n beurs van £1,200 om voltydse navorsing na die oorsake van sterfgevallende onder narkose te onderneem. Wanneer nodig, sal vervoer en verblyf koste betaal word.

Die beurs is in die eerste instansie vir een jaar maar mag vir 'n verdere twee jaar hernu word. Die beursohouer sal hoofsaaklik in Pretoria en Johannesburg werk. Ondervinding van narkose en/of patologie sal 'n aanbeveling wees.

Aansoeke waarin volle besonderhede, insluitende publikasies of vorige navorsingswerk, vermeld word, moet die Sekretaris/Tesourier, W.N.N.R., Posbus 395, Pretoria, teen 15 Januarie 1955 bereik.

REGISTERED MEDICAL PRACTITIONERS

Applications are invited from registered Medical Practitioners for appointment to the Springfield Collieries Benefit Society in the district of Balfour, Transvaal.

Full particulars are obtainable from the Secretary, Springfield Collieries Benefit Society, P.O. Grootvlei.

EXCERPTA MEDICA

Fifteen journals containing pertinent and reliable abstracts in English of every article in the fields of clinical and experimental medicine from every available medical journal in the world. The prices quoted below are per annum (12 parts).

1. Anatomy, Anthropology, Embryology and Histology £5 12s.
2. Physiology, Biochemistry and Pharmacology £11 3s.
3. Endocrinology £3 15s.
4. Medical Microbiology and Hygiene £5 12s.
5. Medical Pathology and Pathological Anatomy £9 6s.
6. Internal Medicine £9 6s.
7. Pediatrics £3 15s.
8. Neurology and Psychiatry £5 12s.
9. Surgery £6 4s.
10. Obstetrics and Gynaecology £3 15s.
11. Oto-, Rhino-, Laryngology £3 15s.
12. Ophthalmology £3 15s.
13. Dermatology £6 4s.
14. Radiology £3 15s.
15. Tuberculosis £3 15s.

We shall be pleased to send you a specimen copy.

Sole Agent for the Union:

A. A. BALKEMA, Publisher and Bookseller
1 Burg Street, Cape Town Telephone 2-9009

S.A. Tydskrif vir Geneeskunde S.A. Medical Journal

The Journal is published weekly on Saturdays.

Office: Medical House, 35 Wale Street, Cape Town.

Postal Address: P.O. Box 643, Cape Town. Telephone 2-6177

Telegrams: Medical, Cape Town.

Proprietors and Publishers: Medical Association of South Africa.

The Journal is supplied to all members whose names are furnished by the Branch Secretaries.

Subscription for non-members, 84s. per annum, post free payable in advance, can be commenced at any time. Single copies 2s. 6d.


Advertisement rates for professional appointments, 30s. per iach, single column. Quotations for larger and serial advertisements on application. Copy must reach the Advertising Manager at least 21 days before publication.

All remittances, whether for subscriptions or advertisements, are payable to the Medical Association of South Africa, at the above address. Cheques should include exchange.

Author's reprints of papers can be obtained at cost. Order blanks will be forwarded to authors when page proofs are ready.

REGISTERED MEDICAL PRACTITIONERS

The South African Blood Transfusion Service invites applications from registered Medical Practitioners for appointment as Operators in those areas where the Service has established Branches and Divisions. Applications to be submitted in writing to the Medical Director, P.O. Box 9326, Johannesburg.



A Scientific Advance

as deadly to bacteria as nuclear fission

DECIQUAM 666

This powerful new quaternary ammonium compound supersedes the old-fashioned disinfectants and antiseptics.

EFFECTIVE Deciquam 666 has extremely potent anti-bacterial activity upon micro-organisms of all kinds. It is, moreover, effective at both high and low pH ranges and can be used as disinfectant, deodoriser, steriliser, or personal antiseptic.

SAFE Completely safe in normal dilutions, non-toxic and non-corrosive.

FUNGICIDAL Inhibits and kills yeasts of all kinds. For instance, is effective in prevention or treatment of Athlete's Foot.

DEODORANT Has a mild pleasant smell. Kills odours by destroying their source — microbial putrefaction.

ECONOMICAL Potent in even extreme dilutions and therefore economical for large-scale disinfection.

STABLE Does not deteriorate through light or heat, non-volatile, lastingly potent. Resists inactivation by anionic and organic materials.

USABLE IN HARD WATERS Unlike the black fluids and other disinfectants.

priced at 9/6 per $\frac{1}{2}$ gall. and 15/6 per gall.

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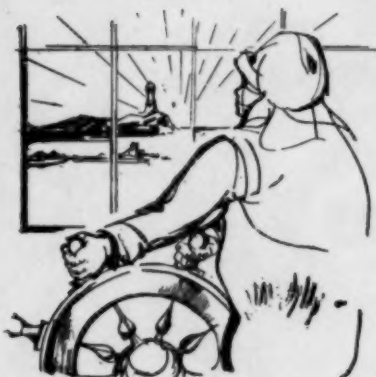
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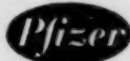
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